UNIVERSITY OF GONDAR
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF TOURISM MANAGEMENT

Ecotourism Potentials and Its Role for Biodiversity Conservation and Rural Livelihood Improvement: The Case of Bahir Dar Nile River Millennium Park: West Gojam, Ethiopia.

By

Negussie Tiruneh Bogale

A Thesis Submitted to the Department of Tourism Management for Partial Fulfillment of the Requirements for the Master of Arts Degree (MA) in Tourism and Heritage Management.

Advisor: Dr. Endalkachew Teshome (*PhD, Assoc.Prof.*)

Co-advisor: Eyobe Mesfine (MA)

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Gondar, Ethiopia

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M.A Thesis

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Declaration

This is to certify that this thesis entitled "***Ecotourism Potentials and Its Role for Biodiversity Conservation and Rural Livelihood Improvement***: ***The Case of Bahir Dar Nile River Millennium Park: West Gojjam, Ethiopia***" submitted in partial fulfillment of the requirements for the award of the degree of MA., in College of Business and Economics, University of Gondar, through the Department of Tourism and Heritage Management, done by Mr. ***Negussie Tiruneh Bogale*** is an authentic work carried out by him under my guidance. The matter embodied in this project work has not been submitted earlier for award of any degree or diploma to the best of my knowledge and belief.

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Table of Contents

List of Tables

Table Page

List of Figures

Figure **Page**

List of Maps

ACRONYMS

ANRS	Amhara National Regional State
BBC	British Broadcasting Corporation
BDNRMP	Bahir Dar Nile River Millennium Park
BDZW	Bahir Dar Zuriya Woreda
CBET	Community Based Ecotourism
CBD	Convention of Biological Diversity
ETB	Ethiopian Birr
ETC	Ethiopian Tourism Commission
EAE	Ecotourism Association of Ethiopia
FDRE	Federal Democratic Republic of Ethiopia
IUCN	International Union for the Conservation of Nature
IGAD	Inter Governmental Authority for Development
ICDPs	Integrated conservation and Development Ecotourism Projects
MoFED	Ministry of Finance and Economic development
UNEP	United Nations Environmental Programm
NGOs	Non-Governmental Organizations
UNDP	United Nations Development Program
USAID	United States Agency for International Development
UNWTO	United Nations World Tourism Organization

ABSTRACT

Ecotourism nowadays become a fashion industry throughout the world in terms of biodiversity conservation and livelihood improvements in remote rural areas. The major objective of this study was to assess the potentials of ecotourism resources which will have a positive implication for biodiversity conservation and livelihood improvements of local communities in BDNRMP. Data were collected and analyzed from both primary and secondary sources. Primarily, survey questionnaires were employed to collect information from households of local people inside the park. A total of 88 household survey questionnaires were collected and analyzed. In addition, data were collected from 15 key informant interviews with kebele leaders and elders, park management officials and scouts, regional tourism and park development staff, Local tour guides and souvenir shop owners in the study area. Direct field observation and photographing of potential ecotourism resources of the park was also undertaken. The assessment of ecotourism potentials revealed some of the natural, cultural and historical ecotourism resources of BDNRMP. Wildlife viewing, trekking along the river side, boat driving and recreation, cascading waterfalls river rafting and boat riding, cultural attractions, dance performance, traditional (cultural tourism) etc. can be main potential ecotourism activities to be practiced on those potential ecotourism resources in the park. The study also revealed that extensive farming and deforestation are the major problems affecting biodiversity of the park contributing to land degradation by exposing the soil to various agents of erosion which in turn greatly affects agricultural productivity directly affected the agrarian livelihood. In addition, inadequate funding and poor salary and employment conditions for protection staffs are the major management problems affecting conservation of biodiversity. Almost all causes of resource degradations are resulted from lack of livelihood diversification options (off farm activities) like ecotourism. So, developing ecotourism in the park can be used as a way to promote biodiversity conservation and livelihood diversification in BDNRMP.

Key words: Biodiversity, Ecotourism, Conservation, Livelihood diversification

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Tourism is the third largest economic activity in the world (after oil and automobiles), and it is one of the fastest-growing activities (Batta, 2009). According to UNWTO's long term forecast tourism towards 2030, international tourist arrivals worldwide are expected to increase by 3.3% a year from 2010 to 2030 to reach 1.8 billion by 2030. Between 2010 and 2030, arrivals in emerging destinations (+4.4% a year) are expected to increase at twice the rate of those in advanced economies (+2.2% a year). The market share of emerging economies increased from 30% in 1980 to 47% in 2013, and is expected to reach 57% by 2030, equivalent to over 1 billion international tourist arrivals (UNWTO, 2014). Therefore, tourist arrivals and receipts at global level in general and in developing countries in particular is becoming boom and it will continue by alarming rate for the future.

Tourism is also one of the largest and steadily growing economic sectors world-wide, as well as being a sector in which developing nations have a considerable stake (Birgit, 1999). For this reason alone, tourism is a relevant factor in terms of development policies. Especially in nature conservation, the "ecotourism" option is increasingly advocated in order to contribute to conservation project funding and offer economic incentives for the preservation of ecosystems and their biodiversity (Birgit, 1999). There are strong arguments in support of ecotourism playing a central role in conservation and rural development in sub-Saharan Africa. The growth of tourism in this region has been among the strongest in the global market during the past ten years, making it an increasingly important industry in many countries in East and Southern Africa (W TO, 2001). According to the Emerton (as cited in Fred, 2004), most tourism enterprises in the region are based on natural resources such as wildlife, forests, deserts, and coral reefs creating important economic incentives for local and national investments in conserving biodiversity. Tourism activities using natural attractions in remote rural areas can be an important source of economic diversification and livelihood opportunity for local communities (Ashley et al., 2001; WTO, 2002). Many countries are confronted with a wide range of different forms of tourism development and, at the same time promote themselves as

"ecotourism-destinations." Tourism, however, does hold the potential to assist in the implementation of conservation and development objectives, for example by creating economic benefits for local communities and the national economies and by furthering the acceptance of nature conservation and environmental protection (Birgit, 1999). Thus tourism is increasingly a component of both economic development and biodiversity conservation strategies in sub-Saharan African countries.

The International Ecotourism Society (TIES, 2006) defines ecotourism as "responsible travel to natural areas that conserves the environment and improves the welfare of local peoples". Ecotourism does more than creating a series of activities to attract visitors, offering them an opportunity to interact with nature in such a way as to make it possible to preserve or enhance the special qualities of the site and its flora and fauna, while allowing local inhabitants and future visitors to continue to enjoy these qualities. They also establish a durable productive base to allow the local inhabitants and ecotourism service providers to enjoy a sustainable standard of living while offering these services (Asteray, 2011). According to Tbilisi (2008), ecotourism is a specific form of tourism with two specific objectives: a) supporting conservation efforts to protect natural/cultural heritage in specific areas and b) developing economic conditions for the benefit of local communities. It is a small but growing segment of the overall tourism market and distinguished from nature-based tourism, which merely exploits natural attractions, by its intended sustainability and environmental friendliness.

Between 2006 and 2008 international tourist arrivals increased from 290,000 to 330,000 and international tourism receipts increased from 162 million to 374 million US Dollars (UNWTO 2009). However, Ethiopia only holds a share of 0.7% of all African international tourist arrivals and 1.2% of international tourist receipts (UNWTO, 2009). Compared with other African countries the industry is still small. Tourism in Ethiopia is currently described as being the sector with the greatest potential for economic growth. Indeed, the sector has been steadily growing and was not affected by the recent international conflicts that had a significant impact in other countries (FDRE, UNDP, & GEF, n.d). In Ethiopia, tourism has been effectively recognized as an important sector for poverty reduction. The government's strategic intent is to make Ethiopia one of the top ten destinations in Africa by 2020, while attracting low-impact high-value tourists (UNDP, 2012). Further, it has pledged to elevate the Ethiopian Tourism

Commission (ETC), the federal government body with the mandate to promote and regulate tourism to the level of a ministry. In late July 2005, the BBC carried a special travel feature on Nature Related Tourism in Ethiopia, interviewing the head of the ETC, and operators, talking about changing images (away from starvation and degradation!) to a land of huge biological diversity and amazing landscapes (F D RE, UNDP,& GEF, n.d). But, in Ethiopia, endeavors for sustainable tourism development are still not matured. Although governmental development plans consider tourism as one main pillar for development, a precise definition of the kind of tourism development that would be appropriate remains missing. But for the Government of Ethiopia, it is now time to bring the country on the right track for tourism development.

Tourism in the country has always involved features of ecotourism; people who visit the historic route like the great monuments of Aksum and other sites in the north, the monolithic churches of Lalibela and the island monasteries of Lake Tana, but now are also interested in the physical features of these areas and in the extent to which they are being protected (Demeke and Ashok, 2013). Some tour organizations in the country are beginning to specialize in animal and bird-watching tours, tours to observe indigenous forests and unusual geologic features. So, it is important to understand the concepts of tourism development and ecotourism in the country.

1.2 Statement of the Problem

Tourism in Ethiopia is an emerging sector with an increasing number of people travelling to the country over the last few years. The government of Ethiopia has discovered the economic value of tourism and is trying to push the country to one of Africa's leading tourist destinations up to 2020 aiming at poverty eradication in one of the poorest countries in the world (Safrin, 2012). In Ethiopia, overgrazing and the expansion of farming into unsuitable land caused by increasing population without increasing economic productivity are leaving the land bare: due to increasing human and livestock population pressure on arable land and forest resources, in large areas of the country, particularly on the northern and central highlands, has been exposed to loss of soil fertility, degradation and ecological imbalances (MoFED, 2006). According to EPA (as cited in Eshetu, 2014), in order to ensure that future developments in Ethiopia are sustainable it is essential to integrate environmental concerns into development activities so that the inclusion of the principles of sustainable development into development endeavors is very essential.

Therefore, in order to ensure the long term survival of the protected areas ecosystem including the wildlife, there is a need to ensure that the local people benefit from the income generated through tourism to increase their support to the conservation efforts. In doing so, ecotourism can play a central role in conservation and livelihood improvement in protected areas.

Bahir Dar Nile River Millennium Park (here after referred as BDNRMP), the center of attention of this study, is found in West Gojjam Zone, Amhara Region, Ethiopia. As a newly proposed park in the country, the park may have many potential resources that will be used for ecotourism development in the region. But these potential resources are neither identified and developed as an ecotourism site nor properly conserved. Some researchers have done their studies on the areas of ecotourism in different parts of Ethiopia (Gobena, 2008; Ayele, 2011; Bekele, 2012; Asteray, 2011). However, studies to see ecotourism potentials and its role that could have for biodiversity conservation and rural livelihood improvement remain untouched. In an attempt to bridge these gaps, this study is focused on assessing ecotourism potentials and its role for biodiversity conservation and rural livelihood improvement by taking BDNRMP as a case study. The reason why this site is selected as an area of study is that no study has been done so far on issues related to ecotourism potentials and its role for biodiversity conservation and rural livelihood improvements.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study is to assess ecotourism potentials and its role for biodiversity conservation and local community's livelihood improvement in BDNRMP.

1.3.2 Specific Objectives

The specific objectives of this study include;

1. To assess major natural, cultural and historical resources of the park for ecotourism development.
2. To investigate major threats of biodiversity conservation in the park.
3. To recognize the role that ecotourism development could have for biodiversity conservation and rural livelihood improvements in the park.

1.4 Research Questions

1. What major resources of BDNRMP will be used for the development of ecotourism?
2. What are the major threats for biodiversity conservation in the park?
3. What would be the role of ecotourism development in biodiversity conservation and rural livelihood improvements?

1.5 Significance of the Study

This study could have some value both from academic and policy points of view. To this effect, this study will give insights in the extent of the problems to other researchers who would like to undertake research in the areas of ecotourism potential assessment in and around protected areas. It could also serve as a reading material and reference for the practitioners and researchers in the sector. Assessing ecotourism potentials and its role for biodiversity conservation and livelihood improvement could increase the knowledge about the issue: Furthermore, the findings of this study could be used as inputs for future action that would be undertaken by governmental and nongovernmental organizations working in the area. It is also hoped that this study could encourage various stakeholders working in the area to organize their activities and take action for the running of successful ecotourism development in the study area.

1.6 The Scope of the Study

The scope of the study is limited in assessing ecotourism potentials and its role for biodiversity conservation and rural livelihood improvement. According to the information gained from BDNRMP manager, the parks natural resource is shared by Bahir Dar City Administration and Bahir Dar Zuria Woreda (BDZW), with the largest proportion in BDZW. So this research mainly focused in BDZW by taking three kebeles as a sample. Ecotourism emphasizes natural environment or some components as the focus of attraction with associated cultural attractions being recognized as a secondary component (Boo, 1990). Therefore, the study mainly focused on natural resources of the park but also tried to highlight cultural and historical resources. Potentials of ecotourism development, threats of biodiversity conservation, biodiversity conservation and rural livelihood improvement through ecotourism development have been delimited to the study.

1.7 Limitation of the Study

The scattered nature of the research destination was an impediment for field observation, conducting interviews and distributing the questionnaire. It is informative to state here that from one potential tourism site to another, one had to travel kilometers of rough roads on foot characterized by lack of reliable transport, so the researcher had to go on foot which are relatively reachable. Time and financial constraints were also other impediments. Since the park is newly established one, there is lack of published materials regarding parks resources. So, due to shortage of published sources on Bahir Dar Nile River Millennium Park, unpublished documents were frequently used.

1.8 Definitions of Terms and Concepts

Tourism: tourism as an economic activity is hard to define but easy to recognize (Schaller, 1998) so that different scholars explain it in different ways. The most widely accepted definition is the one given by Hayward (2000**)** who defined tourism as "the temporary, short term movement of people to destinations outside the place where they normally live and work and the activities they take part in during their stay at these destinations." It is the person's subjective motive (Schaller, 1998) that makes him/her a tourist or not and the traveler's intention to return home afterwards (Hayward, 2000).

Ecotourism: Ecotourism is a sustainable form of natural resource based tourism that focuses on experiencing and learning about nature, and which is ethically managed to be low impact, non-consumptive, and locally oriented (control, benefit and scale). It typically occurs in natural areas, and should contribute to the conservation and preservation of such areas (Fennel, 2003). The most used definition of ecotourism today is the one coined by The International Ecotourism Society (TIES) defines ecotourism as a nature-based form of specialty travel, which involves: "Responsible travel to natural areas, which conserves the environment and sustains the well-being of local people" (TIES, 2000).

Biodiversity: Biodiversity is the wealth of life forms found on earth-animals, plants, and microorganisms in their millions and their differences, the gene they contain and the intricate systems they form (Christ et al, 2003). There are varied definitions of the term "biodiversity".

For purposes of this discussion it suffices to adopt that which is commonly used by biologists which defines biodiversity as the "totality of genes, species and ecosystems of a region"

1.9 Report Presentation Structure

This research paper is organized into five chapters. The first chapter comprises: background of the study, statement of the problem, research objectives, significance of the study and scope and limitation of the study. The second chapter presents review of related literature. In the third chapter, description of the study area, and research methods are presented. Data were analyzed and the research findings were discussed in the fourth chapter. Finally, in the fifth chapter, conclusions were made and recommendations forwarded.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1 Concepts, Definitions and Principles of Ecotourism

The concept of ecotourism emerged in the late 1960s and 1970s. Hetzer (1965) was the first to identify four principles of tourism which help to minimize environmental effects, respect local cultures, maximize tourist satisfaction and provide locals with the financial benefits from tourism (Buchsbaum, 2004). One of the first persons who integrated the concepts of tourism, conservation and local communities was Miller (1978) in his work about Latin America's national parks. Miller introduced the term 'eco-development' and defined it as the integration of economic, social and political factors into biological considerations to meet environmental and human needs (Honey, 2008). The term ecotourism was coined in 1983 by "Hctor Ceballos Lascurain" a Mexican environmentalist, and was initially used to describe nature based travel to relatively undisturbed areas with an emphasis on education. Ecotourism guarantees the sustainable use of environmental resources, while generating economic opportunities for the local people (Bhattacharya, Chowdhury and Sarkar, 2011).

Ecotourism is considered to be the fastest growing sector in the travel industry. It is different from most other forms of tourism in that it focuses not simply on the type of leisure activity, but also on its impact (negative and positive) and the responsibilities of both the tourist and those in the tourism industry (Honey, 1999); it is the tourism industry's leader in sustainability worldwide. It can be seen as an ideal strategy for attaining economic and ecological success in biodiversity protection (Bookbinder et al., 1998). Due to its high direct use value, it plays an important role as an economic incentive for protection (Gössling, 1999). "Ecotourism can generate support for conservation among communities as long as they see some benefit" (Kiss, 2004). Tourism can enhance biodiversity-protection jobs in terms of agreements which lead to benefits for the community and for individuals. There is hope that ecotourism will create enough revenue for the community within a certain period of time that it will be seen as a strong incentive for conservation.

The most used definition of ecotourism today is the one coined by The International Ecotourism Society (TIES) which defines ecotourism as a nature-based form of specialty travel, which involves: "Responsible travel to natural areas, which conserves the environment and sustains the well-being of local people" (TIES, 2000). This definition not only implies that there should be a recognition of, and positive support for, the conservation of natural resources, both by suppliers and consumers, but also that there is a necessary social dimension to ecotourism. These general and vague ecotourism definitions have been criticized because they leave too much room for interpretation (Ambelu, 2011 as cited in Higham, 2007). In the absence of a common definition ecotourism has become the fastest growing sector of the tourism industry growing three times faster than the industry as a whole (TIES, 2008). It has become a central platform in many countries' development strategies. It is particularly attractive for governments in its potential in providing an alternative to other forms of economic development: through employment generation, for its ability to generate foreign exchange, and its ability to generate sustainable regional growth (Ambelu, 2011 as cited in Wearing and Neil, 2009).

Ecotourism has been evolved as a form of tourism which aims to enhance natural conservation and support the wealth of the local community. It is generally considered a nature-friendly activity and able to support biodiversity conservation. It is a form of tourism which emphasizes community participation in its development. At this point, ecotourism can be seen as a concept of sustainable tourism which supports nature preservation and improves community participation in its implementation. There are some important points to consider in order developing ecotourism in developing countries. One of the crucial issues is related to community participation. Scholars point out that community based tourism involves local people in decision-making processes and in sharing of tourism economic benefits. As such, community-based tourism can help to open new employment, reduce poverty, and provides good effects toward the preservation of the local environment and local culture (Rukavina, et al., 2012).

The following are the Principles of Ecotourism as outlined by The International Ecotourism Society and The United Nations Environment Program (Wood, 2002).

- Minimize the negative impacts on nature and culture that can damage a destination.
- Educate the traveler on the importance of conservation.

- Stress the importance of responsible business, which works cooperatively with local authorities and people to meet local needs and deliver conservation benefits.
- Direct revenues to the conservation and management of natural and protected areas.
- Emphasize use of environmental and social base-line studies, as well as long term monitoring programs, to assess and minimize impacts.
- Strive to maximize economic benefit for the host country, local business and communities, particularly peoples living in and adjacent to natural and protected areas.
- Seek to ensure that tourism development does not exceed the social and environmental limits of acceptable change as determined by researchers in cooperation with local residents.
- Rely on infrastructure that has been developed in harmony with the environment, minimizing the use of fossil fuels, conserving local plants and wildlife, and blending with the natural and cultural environment.

2.2 Overview of Ecotourism Development

Ecotourism is an important and rapidly growing "niche market" within the global tourism industry, which offers an opportunity to develop products that can contribute to national environmental conservation, socio-economic and cultural objectives by providing livelihoods for local communities and giving value to the maintenance of local traditions and culture (IGAD, 2011). Although it has been difficult to calculate the size and growth rate of ecotourism, a range of estimates indicate that it has become the fastest growing sub-sector of the tourism industry. During the 1990s, the annual growth in demand for ecotourism was said to range from 10 to 34%, while in 2004, the UNWTO estimated that ecotourism and nature tourism were growing three times faster than conventional tourism industry as a whole. In 2005, the International Tourism Network also rated ecotourism as one of the fastest growing sub-sectors in the tourism industry, with an annual growth rate of 5% worldwide, representing 6% of the world Gross Domestic Product and 11.4% of all consumers spending (Honey, 2008).

Ecotourism activities have been expanding rapidly over the past decades worldwide and further growth is expected in the future (UNWTO, 2002). With an estimated worldwide annual growth rate of 10- 15%, ecotourism is expected to grow faster than other form of traditional tourism

which seems to have reached a saturation point (such as sun and sand resort tourism). The importance of ecotourism as a key factor for economic development has increasingly been recognized by various governments and organizations over the years. The United Nations declared 2002 as the UN International Year of Ecotourism (IYE) and a world ecotourism summit was held in Quebec, Canada. The Quebec Declaration recognized ecotourism for providing a leadership role in advancing sustainable practices within the tourism industry by: increasing economic and social benefits for host communities, actively contributing to the conservation of natural resources and the cultural integrity of host communities, and by increasing awareness of travellers towards the conservation of natural and cultural heritage (Quebec Ecotourism Declaration, 2002). Globally, a number of countries have embraced ecotourism and a growing number of nationally based and regional ecotourism societies have emerged in Kenya, Zanzibar, Laos, Pakistan, Australia, Italy, France, Japan, Ecuador, Mexico, Indonesia, Sir Lanka, Brazil and the Caribbean (Honey, 2008). So, ecotourism is becoming a fashion niche market of tourism industry globally.

2.3 Why Ecotourism?

Ecotourism has been hailed as a tool for economic development and environmental protection because it contributes to funding conservation and scientific research, protecting fragile and pristine ecosystems, mitigating climate change impacts, benefiting rural communities, promoting development in poor countries, enhancing ecological and cultural sensitivity, instilling environmental awareness and a social conscience in the travel industry, satisfying and educating the discriminating tourist, and building world peace (Honey, 2008). In countries where ecotourism is fast developing such as in Costa Rica, it has helped increase tourist spending, linkages and multiplier effects within the mainstream tourism industry. Local communities have started benefiting from activities such as working as rangers, tour guides, environmental interpreters or camping staff in these same areas and creating local businesses focusing on transport, providing food, crafts and entertainment for foreign tourists (IGAD, 2011).

According to Schuller (as cited in Eshetu, 2013), ecotourism is a recent but widely hailed tourism alternative has high potential to be an instrument for rural economic development and resource conservation, the role ecotourism plays in economic development and natural resource management**.** According to his work, ecotourism has economic, social and environmental

benefits for the local communities**.** The economic benefits of ecotourism as identified by different scholars (Dasenbrock, 2002; Ngece, 2002; Lowmen, 2004; & Weggoro, 2008) includes; employment opportunities**,** creating new jobs, diversifying regional economies, minimize leakage, GDP, foreign exchange earnings, development of infrastructure and transfer of income. Ecotourism, if properly managed and applied, can also benefit the environment in the following ways (Ngece, 2002; Dasenbrock, 2002; Kiss, 2004; Weggoro, 2008).

- Ecotourism is relatively less-pollutant industry, which can enhance the conservation and promotion of natural and cultural heritages.
- Ecotourism will foster responsible tourist behavior, conservation of important wildlife habitats and ecosystem.
- It is best alternative activity to environmentally damaging activities like farming, logging and mining. Although ecotourism may not be able to preserve these untouched areas as they would if human contact were prohibited, it can help to protect them from the dangers of destructive agricultural practice, mining and industrialization. "The flora and fauna may be bothered due to ecotourism development], but at least it will not be destroyed."

Ecotourism development, in addition to economic and environmental benefits, might contribute socially by enhancing local community esteem and provides the opportunity for greater understanding and communication among people of diverse backgrounds. Ecotourism helps for political empowerment of local communities and fosters respect for different cultures (helps to develop tolerance). It is also an important vehicle for promoting cultural exchanges (Nepal, 2002 and Weggoro, 2008). According to Brandon and Duff (as cited in Ayele, 2012**),** ecotourism has emerged as potential source revenue to alleviate the financial constraints accrued to parks and protected area conservations. As such many conservationist scholars highly reinforced the justification and feels that ecotourism can financially contribute to the conservation and protection of parks. It generates direct and indirect financial benefits for the conservation of biodiversity by attracting eco-tourists to the natural settings and using the revenue to fund conservation.

2.4 Ecotourism Development in Protected Areas

The International Tourism Society (TIES) and UNEP declared for 2002 as the international year of ecotourism, and presented ecotourism as one of the major components of the earth summit in Johannesburg. This declaration has sanitized popularized international development aids to implement ecotourism as a tool for Integrated Conservation and Development Programs (ICDPs) in resource rich areas. Ever since, it is often regarded as a reliable alternative for sustainable local community livelihoods because main concern of ecotourism development is sustainability, encompassing multiple aspects in social, economic, environmental, and cultural context. The conservation community has adopted the ecotourism concept as a means to partake in the sustainable development discourse, which justifies conservation regimes in the face of development needs (Honey, 1999; Swarbrook, 1999). Okello (2003) showed that the relationship between protected areas and local communities is a key factor in the long- term conservation of the natural resources in and around these protected areas. To achieve sustainability tourism developers and managers balance political support with strategy that maintains the regions ecological integrity, while demonstrating economic benefits and development for the region (Richie, 1999).

Under current conservation regimes, customary forms of resource use, such as agriculture, fishing and hunting, are often conceptualized as potentially unsustainable and are restricted or prohibited (Okello, 2003). Without significant involvement in and benefits from protected area tourism, protected areas communities struggle to meet subsistence needs to the extent that resettlement may be the only option to sustain their livelihoods. The trend of out-migration among the locals happens when there is a tough restriction over available resources or a prohibition on other forms of resource use (Wilshusen, 2002). According to him, this strategy of marginalizing protected area's communities to the extent of exclusion is connected with a renewed emphasis on traditional protectionists' approaches to conservation and protected area management. These approaches prioritize ecological imperatives ahead of socio-economic objectives under the perception of a global biodiversity crisis. Instead, conservationists promote ecotourism as the most sustainable form of resource use. The adoption of ecotourism principles allows them to criminalize other forms of resource use, yet within the policy requirements of providing local benefits and empowerment (Goodwin as cited in Diamantis, 1999). It also links

to the political agenda in pursuing benefit sharing and sustainable use of natural resources as outlined in the Convention of Biological Diversity (CBD, 1992). With resource extraction restricted or prohibited, the local involvement in tourism development and the provision of economic incentives are crucial steps to meet subsistence and livelihood needs of communities within the protected areas. According to Drumm and Moore (as cited in Ayele, 2012), the prime settings of ecotourism development are pristine, exotic, remote and natural areas easily prone to threats and damages. Developing tourism practices in such areas requires precarious measures most often taken and implemented by the administration of parks and protected areas. The skill, knowledge and motivation of the personnel undertaking the administrative functions greatly determine the success of ecotourism.

2.5 Threats to Biodiversity

Biodiversity is the wealth of life forms found on earth-animals, plants, and microorganisms in their millions and their differences, the gene they contain and the intricate systems they form. There are fundamentally two reasons for conserving biodiversity. The first is the moral justification and the second is the value to human existence. Biodiversity is essential to human development because of the goods and services it provides. An estimated 40 percent of the global economy is based on biological products and processes (Christ et al., 2003). However, on a global scale, biodiversity is being lost at a rate many times higher than that of natural extinction. This is caused by a number of factors, including uncontrolled land conversion, climate change, pollution, unsustainable harvesting of natural resources and introduction of invasive species (Christ et al., 2003).

Both biodiversity and sustainable development are currently threatened by human action. Direct threats include habitat degradation and loss, habitat fragmentation, overexploitation of resources, species invasion and climate change (Groom et al, 2006). High losses driven by land-use change and management (e.g. for pasture, food crops and bioenergy crops), commercial forestry, infrastructure development, habitat encroachment and fragmentation, pollution (e.g. nitrogen deposition) and climate change are projected in parts of Asia, Europe and Southern Africa (OECD, 2012). Habitat degradation and loss (as well as fragmentation) are largely caused by conversion, modification, and fragmentation of natural ecosystems for alternative uses such as agriculture and infrastructural development, which do not maintain species diversity or which

undermine the provision of vital ecological services. These changes in land use are often driven by the perception that employing land for alternative use would generate higher economic returns (Norton-Griffiths and Southey, 1995). Land use changes often result in irreversible changes to the habitat whose natural systems and component species are destroyed and replaced (Ehrlich and Kremen, 2001). Overexploitation is largely due to the increasing demand for natural resources because of increasing human population. Due to human migration and other factors, several species are introduced in new areas where they invade and dominate native species. Climate change - which is being observed globally - is making the results of these threats worse. Scientific information now indicates that though climate change is a natural process, human consumption patterns contribute to its increase.

2.6 Ecotourism Development and Biodiversity Conservation

Worldwide, the level of involvement from indigenous communities in biodiversity conservation depends on the strategy in place. Common approaches to protecting biodiversity include creation of parks and protected areas, establishment of natural reserves, and implementation of integrated conservation and development ecotourism projects (ICDP). They vary in strictness of conservation in terms of human consumptive uses (Brooks et al., 2006).

Concern about the conservation of nature has a long history but its expression as “biodiversity” conservation is a relatively recent phenomenon (Nunez et al., 2003). Biodiversity is a term that was developed as a means of describing the variety of life at a time when concern was increasing about the loss of such variety. Threats to this diversity are driven by an increasing array of homogenizing forces including the spread of introduced species, the rising impact of human land use and agribusiness, and the dominance of humans as principle structures of ecosystems (Sanderson et al. 2002). Biodiversity is often used in a general way, but a careful and comprehensive definition is necessary for many discussions, especially when new policy directions are at stake. Redford and Richter (1998) defined biodiversity as the natural variety and variability among living organisms, the ecological complexes in which they naturally occur, and the ways in which they interact with each other and with the physical environment. Rooted in the biological sciences, over the last two decades biodiversity conservation has become an objective of international organizations, national governments, NGOs, local communities and even some businesses (Redford & Sanderson, 1992). As biodiversity conservation has become a common

objective, the term itself has assumed an even broader range of meanings. As a result, the word has been pulled from its roots in the biological sciences, becoming a political term with as many meanings as it has advocates (Redford & Sanderson 1992). In this social and political discussion around biodiversity, what is often at stake is not its conservation but who gets to claim it and use it, the institutional arrangements to regulate its use, and allocation regimes for losses and gains from use. This reframing of a conservation term into a largely political one has obscured the fact that biodiversity has different components (genes, species, ecosystems) and attributes (composition, structure, and function) each of which is differentially affected by various types and intensities of human use (Redford and Richter, 1998).

The key feature of the national parks strategy is that local livelihood is assumed to conflict with conservation. Thus, they have strictly defined borders that exclude livelihood activities and rarely facilitate local economic development (West et al., 2006). People are meant to use resources outside the parks, and plants and animals are meant to stay inside. While national parks remain an important approach to conservation, they have proven difficult to implement in many settings, especially in the developing world since boundaries are difficult to enforce due to inadequate government resources, weak management capacities, remote sites, and ineffective legal systems (Brooks et al., 2006; Adams and Hulton, 2007). In addition, by modifying the boundaries of communities and their control of land use, national parks have contributed to marginalization of and poverty in rural communities that have been excluded from parks (Sherbinin, 2008). Another consequence is that the rules that govern the use of resources by community members have been negatively affected, leading to conflicts over natural resources outside the park (Coad et al., 2008).

Tourism in the conservation area has a range of benefits and advantages, as well as a financing source for the conservation areas. Basically the responsibility of planners and managers of conservation areas is to maximize benefits and minimize costs. Some of the benefits and advantages of the tourist development in the conservation areas according to Regina, Butar, and Soemarno in 2012 are:

- Improving the economies of the surrounding communities,
- Conservation of natural and cultural resources, and

- Improve the quality of life of the local community. Conservation as a basis for ecotourism is an important principle in formulating and setting the vision and mission of ecotourism development. The critical mission in ecotourism development is nature preservation through the conservation of biodiversity and its ecosystem, local job creation, community economic development as a justice (Regina et al., 2012). Ecotourism plays a great role in natural resource management by generating income for the local communities (Kiss, 2004). Generally, the literature indicates developing ecotourism in protected areas have a considerable impact on biodiversity resources.

2.7 Ecotourism Development and Livelihood Diversification

The primary goal of most protected areas is to conserve biological diversity and provide ecosystem services, not to reduce poverty. However, examination of the linkages between the establishment and management of protected areas and issues of poverty in developing countries has become a practical and ethical necessity. Practical, because to survive, protected areas in the poorer nations must be seen as a land-use option that contributes as positively to sustainable development as other types of land use. And ethical, because human rights and aspirations need to be incorporated into national and global conservation strategies if social justice is to be realized (IUCN, 2004). Therefore, biodiversity conservation in protected areas becomes both practical and ethical necessity.

Local communities in most instances have been neglected from any economic sayings. This could easily be observed when parks and protected areas have been merely established to protect the environmental resources. The glaring growth of the rural population and the availability of few economic alternatives purportedly resulted in unsustainable use of the resources of once remote and exotic areas. The questions of fulfilling livelihood needs forced the local communities to engage in illegal hunting, logging, fuel wood collection and uncontrolled burning. Ecotourism is dictated to reconcile the economic needs of the local communities with conservation. Its prime objectives are to achieve protected area conservation by providing local people with economic alternatives. The range of approaches under ecotourism is based on concepts of sustainable use the environmental resources and sustainable development in rural contexts (Brandon, 1996; Diamantis, n.d). So, to reconcile illegal activities in protected area ecotourism is the best option.

In the past, different people have viewed tourism as having quite different roles in development. The problem is that each view has been partial and incomplete. Government planners and economists in developing countries focused on tourism as a means to bring in foreign exchange, but not as a sector directly relevant to the poor. Meanwhile communities and non-governmental organizations focused on direct participation of poor people in small enterprises, such as campsites and craft centers. They used to pay little attention to the other ways that tourism can diversify local economy and help in poverty reduction (Anna, et al., 2009). Today we know that there are many different ways that tourism can engage poor people, boost local economic development, or affect their physical and social environment (Anna, et al., 2009). It is important to be aware of them all, to see which links can be strengthened in different circumstances. Both immediate and long-term changes, both financial and non-financial, need to be considered. According to Anna, et al. (2009), there are three main types of impact to take into account:

1. Poor participants earn income by participating in tourism and related sectors. Thanks to tourism, cash flows into the pockets of poor households.
2. Tourism has many longer-term dynamic impacts to develop local economies and poor people's livelihoods. This may affect their income, opportunities, or security.
3. Tourism affects the natural environment in which people live, and their social and cultural environment. Whether or not these directly affect their livelihood, they affect their well-being.

According to IUCN (2004), poverty is often defined in economic terms, against indicators such as income or consumption. But recognition is growing that poverty is a multi-faceted condition involving several, usually interconnected, economic and social dimensions, including:

- lack of assets and income;
- lack of opportunities to engage in productive activities that can sustain livelihoods;
- lack of voice and empowerment, and exclusion from decision-making processes, governance systems and legal recourse;
- vulnerability to man-made and natural disasters, ill-health, and economic shocks; and
- lack of capacity to promote and defend community interests.

The process of development takes place in the environment, using resources, generating waste and causing other impacts; and the environment is the natural resource base that continues to provide human beings a wide range of livelihood assets and benefits (Dessalegn, 2001; Barrow,

2005). Environmental resources are the foundation of social and economic development as they are the sources of goods and services needed for poverty reduction and economic growth. Their mismanagement coupled with their underutilization has so far reduced their contribution to Ethiopia's overall development (MoFED, 2006).

Ethiopia's strong economic performance continued for the last consecutive years, with real GDP growth estimated at 9.7% in 2012/13. As in the preceding years, this growth continued to be broad-based, with all sectors contributing; the service sector accounted for 46.1% of the growth, followed by agriculture (32.1%) and industry (21.8%). The service sector was estimated to have grown by 9.9% during 2012/13, mainly driven by expansion in wholesale and retail trade (34.4%), transport and communications (17.1%), hotels and tourism (15.4%), and other community services. The service sector has been gaining much importance in GDP. Its share has increased from 38% to 45.2% within 10 years. The highest increase was observed in the wholesale and retail trade, and hotels and restaurants. In terms of employment also the sector is gaining more prominence **(**www.africaneconomicoutlook.org). Therefore, in the Ethiopian context, establishing and measuring links between tourism activity and livelihood diversification strategies in rural areas are a critical rationale for considering public investment in the sector.

2.8 Necessary Conditions for the Development of Ecotourism

The key components of travel and tourism industry according to Agrush and Guidry (1999), Hayward (2000), Haroon (2002) and Wegaroo (2008) as cited in (Eshetu,2012) includes:-

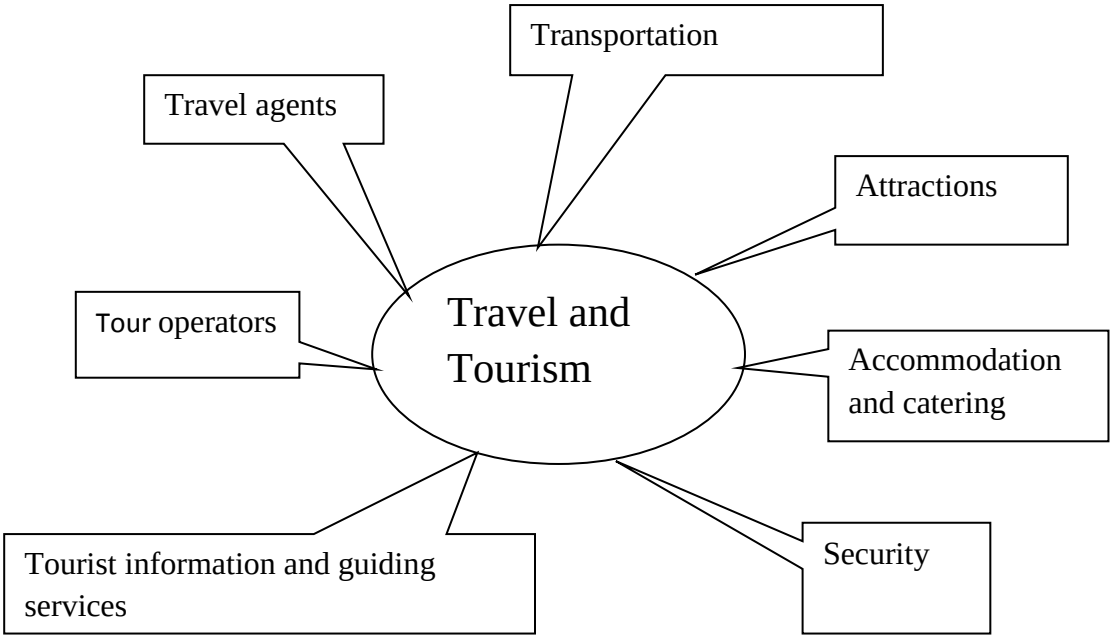


Figure 1: Components of travel and tourism industry. (Source: Modified from Hayward, 2000:65).

- **Travel agents**: - they provide vital services in the sector like plan travel, itineraries, issue tickets, keep accounts, currency exchange, etc.
- **Tour operators**: - a tour operator puts together holiday packages which consists ravel (road, sea, air, rail), accommodations (hotels, guesthouses, self-catering) and travel service (transfers, car hire, excursions).
- **Tourist information and guiding services**. Information for tourists is provided by national boards and local tourist information centers.
- **Accommodation and catering**: - it includes provision of accommodation, food and drink for those who are away from home. The service can be provided in hotels, motels, guesthouses, inns, farmhouses, holiday cottages and chalets, caravan parks and camp sites, restaurants, cafes etc.
- **Attractions**- which includes both natural and cultural tourist attractions.
- **Transportation**- efficient transportation system is crucial for the development of tourism industry.
- **Security** - the availability of peace and stability is the pillar and fundamental prerequisite for flourishing and sustainable tourism development.

2.9 Ecotourism Development Potentials in Ethiopia

Ethiopia is one of the fast emerging tourism destinations in the region offering a variety of tourist attractions and products. In 2008 the country received 383,399 international visitors, a 7.1% increase from 357,841 visitors received in 2007. The sector generated US$ 204 million in 2008. Accordingly, most of the tourism in Ethiopia is characterized by mainstream tourism accommodation facilities and services providers mainly tour companies which take visitors to various parts of the country. Although no specific regulatory framework has been put in place by government to develop ecotourism, it is slowly but steadily taking root especially with private sector initiatives. Ecotourism Association of Ethiopia (EAE) has been at the forefront on promoting and developing ecotourism in the Country. EAE brings together over 30 private companies ranging from five star hotels, tour operators to small lodge operators, with a mission to create high standard eco-destinations and facilities that contribute to alleviation of poverty, upgrading of human resources, promoting Ethiopia's rich cultural heritage and conserving environmental resources (IGAD, 2011).

The country primarily derives its tourism income from cultural and historical tourism resources. According to IGAD (2011), with more world heritage historic sites than any country in Sub Saharan Africa, Ethiopia has diverse and rich historical routes in the northern part of the country which pass through major sites such as Axum, Gondar, Lalibela among others. This takes the tourists through a history of legendary rulers, fabulous kingdoms and ancient mysteries some dating back as far as 4.8 million years ago. This means the income the country deserves to earn from environmental and wildlife tourism have been scoring insignificant amount. Hence, the economic values of the environmental resources and wildlife of the country have been insignificantly recognized (World Bank, 2006).Whereas, in other developing countries wildlife and environmental resources are becoming increasingly popular attractions for international tourists (Tewodros, 2010).

Ethiopia's protected areas offer ecotourism and leisure activities such as wildlife viewing, trekking, sightseeing and bird watching. It has really places for outdoor lovers, as the choices of attractions throughout the country are open air. For the energetic walking and trekking, pony trekking and mountain climbing in the Semein Mountains in the north and Bale Mountains in the

south. However, ecotourism development in Ethiopia is relatively new and the prime role of the sector has hardly been considered by the developers and policy makers (Wondifraw, 2007).

In 2008 the United States Agency for International Development (USAID) launched its new multimillion dollar ecotourism program, which is assumed to contribute to the development of Ethiopia's unique and potentially very lucrative ecotourism sector. It has also pretended to be the most important strategic tool to protect the natural resources and cultural heritage sites, as well as to improve the livelihoods and quality of life of local communities. In addition, the World Tourism Organization (WTO) has chosen Ethiopia as one of the first countries to be targeted by its Sustainable Tourism and Elimination of Poverty (STEP) initiative. National parks are areas set aside for the purpose of conserving and protecting wildlife and objects of aesthetic, ecological and scientific interest. Inside the park activities like felling trees or exploiting natural resources prohibited in any manner unless these activities are for the development and management of the park (Tewodros, 2010). However, the concern for ecotourism development in Ethiopia has shown a promising trend since 2002. Consequently, private developers, NGOs, policy makers, governmental agencies and the local communities have begun to take initiatives to develop ecotourism as a tool for the conservation of the natural resources and economic alternatives for the local communities (Wondifraw, 2007). Generally, Ethiopia has diverse natural, cultural and historical resources that can be used for ecotourism development.

2.10 Conceptual Framework

Figure 2 illustrates the linkages between ecotourism development with biodiversity conservation as well as livelihood diversification. The framework identifies the threat (direct and indirect) that affects biodiversity. Direct threats are the factors which negatively affect biodiversity (commercial logging, hunting, fishing, quarrying, forest clearance for fuel wood and agricultural expansion, house construction), whereas indirect threats are the drivers that lead to the direct threats (poverty, awareness, lacks of education or resources management institutions). The framework presents ecotourism development as a noble policy's strategy towards biodiversity conservation, by creating alternative economic incentives for impoverished ecosystem people. According to Lindberg (1996), ecotourism offers both direct (salary, wages and income) and indirect benefits (market for local production and social services such as hospital and schools) which in turn contribute to the improvement of rural livelihood. Thus, sustainable conservation

of biodiversity can only be obtained if ecosystem people are really satisfied with the benefits and the way profit is shared between stakeholders.

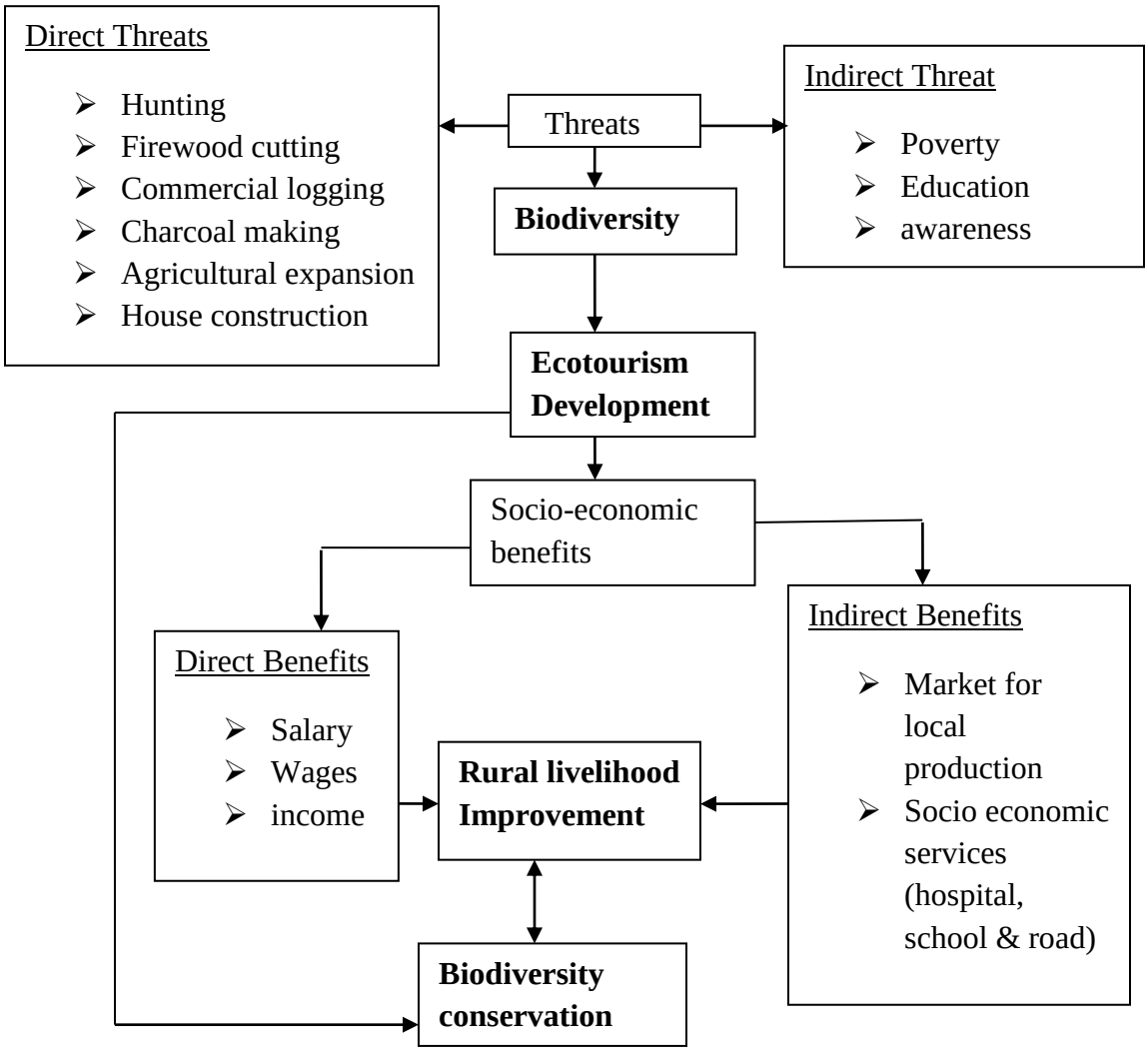


Figure 2: Conceptual frame work of the study. Source: Modified from Lindberg (1996).

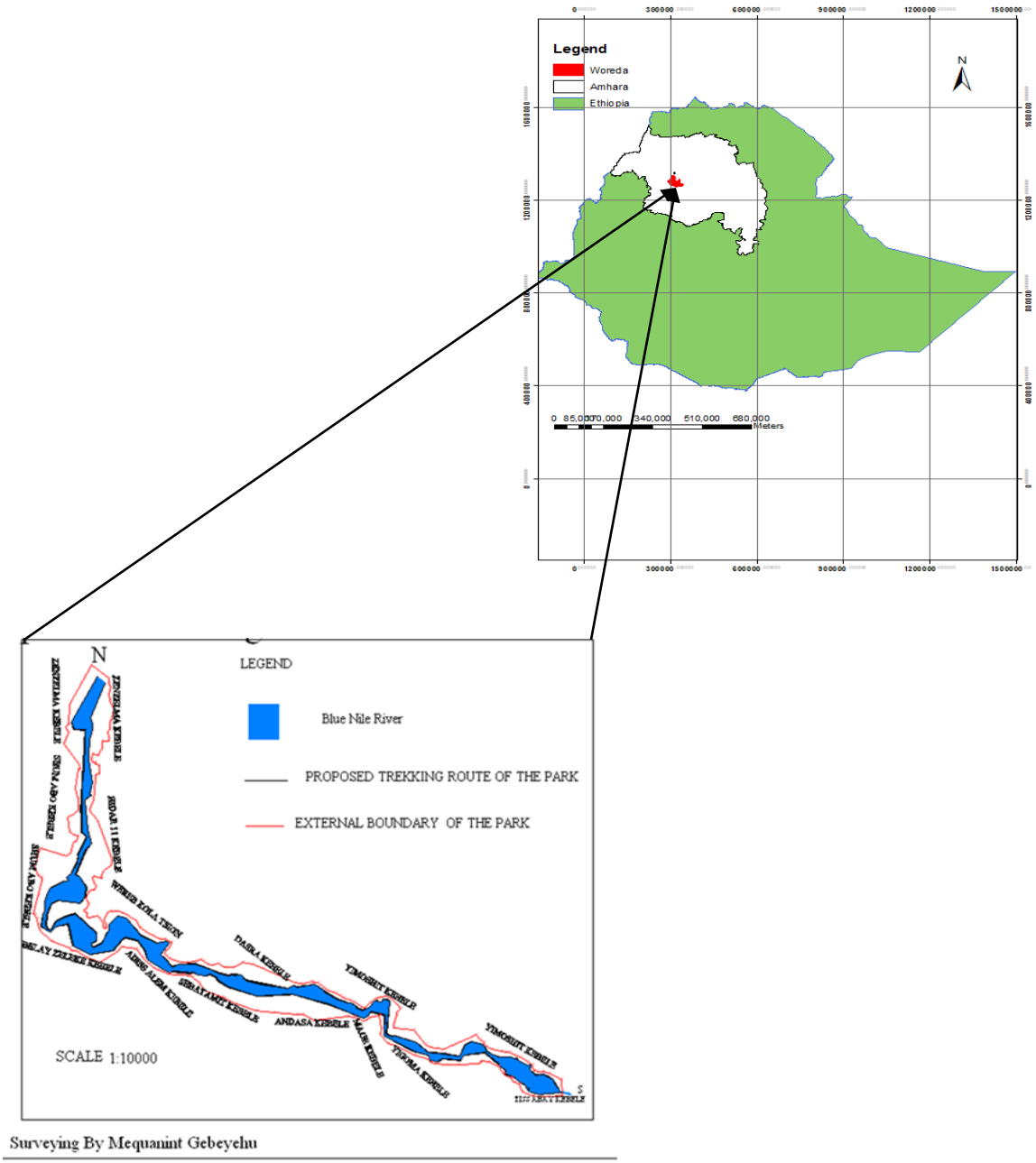
CHAPTER THREE

DESCRIPTION OF THE STUDY AREA AND METHODOLOGY

3.1 Description of the Study Area

3.1.1 Geographic Position and Location

Bahir Dar Nile River Millennium Park (BDNRMP) the center of this study was established by the ANRS based on a regional regulation (no. 59/2008) in 2008 (Zikir Hig, 2008). It is designated as category IV of the IUCN protected area system (habitat/ species management area), covering an area of 4729 ha, which stretches from the source of Blue Nile outlet at Lake Tana to the wonderful fall of the river (Tis Isat) i.e. from Northeast to Southeast part of Bahir Dar. The distance from the riverbank to the external boundaries varies from 65m to 1.2 km (Birhanu et al, 2007). Geographically the location of BDNRMP is 11^0 29' 40.2" to 11^0 37' 32.9" N latitudes and 37^0 24'37.2" to 37^0 36' 34.0" E longitudes (Marye, 2009). The park lies within Bahir Dar Zuria Woreda and Bahir Dar City Administration. There are thirteen (13) kebeles inside the park. Specifically kebeles adjacent to the park are Zenzelma, Shum-Abo, Wereb Kola Tsyion, Tis Abay, Eidago, Andasa, Dasera, Yemoshit, Sebatamit, Addis Alem, Belay Zelke, hidar 11 and Wofargif Tamirie.



Map 1: Location map of the study area: (Source: Modified from Bahir Dar Nile River Millennium Park strategic plan for 2010-2014, 2007)

3.1.2 Topography and Climate

Topographically, the area is characterized by gentle undulating plateau (Bellier, 1997), with meandering river course and relatively slow flow of water. Valleys, flatlands of seasonal

flooding, riverside wetlands, dry hills, escarpments, and igneous rock dominated rough surfaced flatlands. Topographic features accompanied by evergreen moist riverine extensive flatlands with scattered islands that extends to upland humid forest of riverine and nearby wetlands and up and dry areas (Marye, 2009).

The altitude of the district ranges from 1750 to 2300 meters above sea level (masl), which categorized into midland and its annual rainfall varies from 820 to 1250mm. The area is within the elevation of 1621 masl at the foot of Blue Nile Fall and ranges around 1830 masl at the river outlet from Lake Tana to 1937 masl at the spectacular hilltop viewpoint of Mulilit at southern border of the park and south east direction of Blue Nile fall (Marye, 2010). The area has warm temperate with mean annual temperature of about 19.4^0C. While the mean monthly temperature ranges from a minimum of 16.1^0C in December to a maximum of 21^0C in May (Birhanu et al, 2007). According to traditional climatic classification of Ethiopia, the study area is found in "Moist Woyina Dega" in its eastern side and "Wet Woyina Daga" in the western side.

3.1.3 Fauna

In between the outlet of Lake Tana and the Blue Nile Falls (BDNRMP) a detailed assessment of the wildlife was conducted (Marye, 2010, Marye 2009). The presence of the following species needs to be highlighted: Due to the inaccessibility of the islands some 14 mammal species could be recorded. The river course is rich in fish, reptiles, and amphibians. The park is home to large mammals like common hippopotamus (*Hippopotamus amphibius*), savanna baboon (*Papio cynocephalus anubis*), vervet monkey (*Ceropithecus pygerythrus*), african civet (*Civettictis civetta*), duiker, tree squirrel (*Xerus erythropus*), bush buck (*Tragelaphus Scriptus*), crocodile (*Crocodiles niloticus*), and anubis baboon (*Papio Anubis*).

Moreover, more than 160 bird species were observed in the park, including wetland birds, water fowls, riverine and woodland birds. Given the park´s habitat diversity, 3, 25, 37, 41 and 10 bird species were rare, uncommon, frequent, common, and abundant respectively (Birhanu et al, 2007).

3.1.4 Flora

The park is characterized by riverine ecosystems (with various islands), vast number of indigenous tree species; dry upland montane forests: dominated by Wanza (*Cordia africana)*, Besana *(Croton macrostachyus)*, Abalo (*Combretum molle)*, Bamba (*Ficus sycomorus)*, Warka (*Ficus vasta)*, Zegeta, Wonahi (*Securinega virosa)* and Dedeho(*Euclea racemosa subsp schimperi)* ; Riverbank wetlands: Pilla and papyrus; 12 forest patches dominated by natural vegetation of riparian and riverine types with more than 10 islands of which 6 are densely forested;140 species of woody plants were identified (Marye, 2009) of which 14 species are use indicators, and 13 are endemic that require special attention for conservation and rehabilitation. Molla (2010) identified additional 28 species of woody plants and 62 species of herb and grass species. Natural areas in the park also provide wild fruits and other forest products for different purposes, like edible wild fruits such as *Mimusops kummel*, *Cordia Africana*, *Syzygium guineense* and *Diospros mespiliformis*. Mimusops kummel also has a medicinal value against stomach parasites and healing amoebic dysentery (Marye, 2010). Generally the park contains the following ecosystem types:

• Riverine evergreen ecosystem (river courses, island fragments, water ways);
• Dry upland montane forests (upland dry forest composition) dominated by seasonal defoliation and removal of green leaves in winter;
• Riverbank wetlands (wetlands near to the river watercourse and mixed forests of sewage grass and shrub undergrowth, beneath huge evergreen riverine trees) largely dominated by river water, plant and animal species (Friedrich, 2012).

3.1.5 Population and Socio-Economic Condition of the Area

The result of the 2007 population and housing census showed that the total population of villages in 13 bordering Kebeles including residents of the park was estimated about 150,797 (76882 male and 73915 female)(CSA, 2007). According to Our Voice newsletter (2013), the population growth rate of Amhara region is 1.98 % per year. So according to this, the current population of these kebeles is estimated to be 174,683 of whom 89,060 are men and 85,623 women. The main livelihood income for the area is mixed farming (both crop production and animal rearing), even if some inhabitants practicing fishing, wood selling and other forms of trade. Particularly, poor

and marginalized society of "*Negede Woyito*" are supporting their livelihood through collecting forest and river products (e.g. Papyrus) and transportation by boat (*Tankua*) within the park. The majority of the inhabitants of the area are Orthodox Christian followers (Birhanu et al., 2007).

3.2 Research Methodology

The study focused on assessing the potential ecotourism resources of Bahir Dar Nile River Millennium Park for ecotourism development and to identify the major threats of biodiversity conservation. So, descriptive survey type of research was used. According to Koul (as cited in Eshetu,2010) this method or type of research is commonly conducted to collect detail description of existing phenomena with the intent of employing data to justify current conditions and whenever possible to draw valid general conclusions from the facts discovered**.** In line with this, both qualitative and quantitative research methods are employed to describe the objectives of the study. Data gained from qualitative sources are analyzed concurrently together with quantitative data depending on the similarity of the issue.

3.3 Target Population

The purpose of this study is to assess ecotourism potentials and its role for biodiversity conservation and rural livelihood improvement in BDNRMP. Therefore, the subjects of this study encompasses stakeholders of BDNRMP and includes local communities living adjacent to the park, Bahir Dar City Administration, Park management personnel, rural development officials, Amhara Region Tourism, Culture and Parks Development workers, kebele elders and leaders.

3.4 Sample Size Determination

The samples were selected by using multi stage and purposive sampling techniques to achieve the objectives of the research.

Most of the time multi-stage sampling technique is used in a complex design in which two or more levels of units are embedded one in the other. Hence, due to the existence of more levels of sampling units one in the other in BDNRMP, multi-stage sampling techniques were used. This sampling technique involves primary, secondary and ultimate sampling units. The Weredas,

Kebels and sample populations have been taken as the primary, secondary and ultimate sampling units respectively. Therefore, BDZW has been taken as a primary sampling unite and three kebeles (Tis Abay, Yemoshit and Dasera) were considered as secondary sampling unite based on, unexplored natural, historical and cultural resource abundance, rural household dwellers, and consultation with the experts of Amhara Region Bureau of Culture, Tourism and Parks development workers. It is impossible to use the whole population and therefore it is must to use sample. The selected kebeles have a total of 519 (Birhanu et al., 2007) households that are living inside the park. Undertaking any type of construction within the park is a prohibited action (Ziker Hig, 2008). Thus, by considering this situation, the total sample size of households (the ultimate sampling unites) had been determined using the following sample size determination formula adapted from (Israel, 1992).

$$n = \frac{N}{1 + N(e)2}$$

Where; N = the total population that will be studied

n = the required sample size

e = the precision level which is = (±10%)

Where Confidence Level is 95% at P = ± 5 (maximum variability)

By using the above formula, the sample size becomes 84.85 households. Accordingly, the sample size was made to be 90 households.

Purposive sampling has been implemented for key informant interviews based on their know-how and qualifications about the research issue and the study area.

3.5 Data Sources and Data Collection Instruments

The study uses both primary and secondary data sources.

3.5.1 Primary Data Sources

Primarily, data were generated by employing both qualitative (using key informant interview, field observation and photographs) and quantitative (mainly using household survey questionnaire) methods.

3.5.1.1 Key Informant Interview

This method hase been used to get information from Amhara Region Tourism and Parks Development Bureau officals, Bahir Dar City Administration workers, local leaders and elders, park staff, Kebele development agents, tour guides and business men related with tourism possess knowledge about the park and its activities mainly using an open ended interview checklist.

3.5.1.2 Household Survey

Draft questionnaires both closed and open ended have been prepared based on the research questions to gather information from sample households. For household survey, the questionnaire has been prepared in Amharic because Amharic is local communities' mother tongue language and spoken in the area.

3.5.1.3 Field Observation and Photographs

Field observation and photographing were also other components of data collection process. It includes observation of the infrastructure patterns, natural resources particularly Island forest patches along the river and biodiversity and its main challenges in the area, natural and cultural tourism resources like river courses, waterfalls and different flora and fauna species, historical monasteries and churches, palaces etc.

3.5.2 Secondary Data Sources

In an effort to make this research more valid, creditable and applicable secondary sources which are found to be important to the study were reviewed. For this purpose, both published and unpublished sources have been investigated thoroughly especially books, internet sources, research journals, MA thesis reports, different reports and proceedings.

3.6 Data Processing, Analysis and Validity Procedures

The information gathered from important sources using questionnaires, interview, documentary analysis and field observation/transect walks together with photograph has been triangulated and organized in to manageable manner using tables (based on similarity of the issue) in order to

make the analysis easy with the help of Statistical Package for Social Science (SPSS version 21). Based on the organized data, analysis has been undertaken both qualitatively and quantitatively and also has been supported by actual photographs.

To confirm the validity of the questionnaire and interview guide whether they measure what they were intended to measure in the objective of the study or not, copies of each of the instruments were distributed to experts in the area of tourism from different backgrounds. Based on their valuable comments and suggestions, necessary adjustments have been made as far as the clarity of language, ideas and contents of the study area were concerned.

3.7 Ethical Considerations

The study has been conducted in consideration of all ethical issues of a research. The participants were briefed about the purpose of the study and asked for their informed consent to be involved in the study. The researcher has developed rapport with the participants to encourage optimum responses in time of qualitative data collection. In addition to this, participants were never obligated to write their name in the questionnaire.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter discussed the findings and results of the study. Many issues were analyzed such as respondent characteristics, ecotourism potentials of the park, threats of biodiversity conservation in the park and different livelihood options for local communities. In addition to this, it also tried to discuss the role that ecotourism development could have on biodiversity conservation and rural livelihood diversification in and around the park.

4.1 Respondents' Characteristics

4.1.1 Sampled Household Survey Characteristics

This section focused on the analysis of the basic characteristics of the sample households. Out of the 90 sampled household survey questionnaires, the number of returned and valid for analysis were 88. Sampled households were identified in sex, age group, marital status, educational background, family size and household monthly income as independent variables. The clear picture of the respondents' characteristics is illustrated as follow.

Table 4.1.1.1: Distribution of sampled household respondents by sex (N=88)

Sex	Frequency	Percent	Valid Percent	Cumulative Percent
Male	72	81.8	81.8	81.8
Female	16	18.2	18.2	100.0
Total	88	100.0	100.0	

Based on Table 4.1.1.1, the information obtained from household questionnaires, female respondents were 18.2% and the majorities i.e. 81.8% were males. Thus, the sex distribution showed that, usually males are highly involved on community affairs due to females are more responsible for unpaid house tasks and other determining factors (culture and interest).

Table 4.1.1.2: Age distribution of sampled household respondents (N=88)

Age Range	Frequency	Percent	Valid Percent	Cumulative Percent
18-30	19	21.6	21.6	21.6
31-60	62	70.5	70.4	92
More than 60	7	8.0	8.0	100.0
Total	88	100.0	100.0	

As observed from Table 4.1.1.2, majority of the respondents (70.4%) were found to be in the age range of 31-60 years old followed by (21.6%) age range of 18-30 years old, whereas the remaining (8%) are 61 years old and above. Accordingly, the result indicated that the productive human resource age group of the study area is dominated by the age range between 18 and 60 or 92% of the total population. This age range is very important for the development of tourism in the study area. This age category is productive and highly demands an employment opportunities, which could have positive implication in terms of labor resource for tourism sector.

Table 4.1.1.3: Martial status of sampled household respondents (N=88)

Marital status	Frequency	Percent	Valid Percent	Cumulative Percent
Single	2	2.3	2.3	2.3
Married	81	92.0	92.0	94.3
Divorced	5	5.7	5.7	100.0
Total	88	100.0	100.0	

As indicated in Table 4.1.1.3, the marital status of the sample population included that 92% married, 2.3% single and 5.7% divorced. Thus, most of the respondents are married people established permanent way of life in the study area that encouraged high demand at least one family member on tourism issues due to the agrarian community settlement livelihood has become diminished since the last few years for different reasons like soil fertility reduction, expensiveness of agricultural inputs and rapid population increment.

Table 4.1.1.4: Educational background of sampled households (N=88)

Educational Background	Frequency	Percent	Valid Percent	Cumulative Percent
Illiterate	45	51.1	51.1	51.1
Able to read and write	20	22.7	22.7	73.8
Primary school	13	14.8	14.8	88.6
Secondary school	7	8.0	8.0	96.6
Others	3	3.4	3.4	100.0
Total	88	100.0	100.0	

According to survey result presented in table 4.1.1.4, in terms of educational background of the sample respondents, illiteracy rate is found to be 51.1% without having formal education. Likewise, 22.7% of the sample population was reported that they were not able to attend formal education; but they can read and write which is claimed to be acquired through some informal and traditional religious education as well as literacy campaigns. But, only 20 of the respondents (22.8%) had basic education in primary and secondary high school, which enabled them to be involved in tourism matters in their surroundings. The rest of the respondents (3.4%) are attended college diploma and above. Tourism in general and ecotourism activities in particular pertain to be affected by the level of awareness of those who have involved in its developmental aspects. Basically, those who attend secondary education and college diploma are good at English language which is satisfactory for their communication in local guiding, and decision-making within BDARMP if supported via training to fill special knowledge, attitude and skill gaps to cope with the information ages.

Table 4.1.1.5: Family Number per Household (N=88)

Family number per Household	Frequency	Percent	Valid Percent	Cumulative Percent
1-2	10	11.4	11.4	11.4
3-4	23	26.1	26.1	37.5
5-6	27	30.7	30.7	68.2
more than 6	28	31.8	31.8	100.0
Total	88	100.0	100.0	

Table 4.1.1.5 revealed family number per household and the majority of households (31.8%) have family members of more than six individuals. About 30.7% has family members 5-6 per household. The remaining 26.1% and 11.4% has family members of 3-4 and 1-2 per household respectively. Thus, the majority of households i.e. 68.2% have five and more than five family sizes. This number of family size demands too much for living and needs livelihood diversification.

Table 4.1.1.6: Monthly Household Income of sampled households (N=88)

Monthly Household Income	Frequency	Percent	Valid Percent	Cumulative Percent
less than 500	24	27.3	27.3	27.3
501-1500	42	47.7	47.7	75.0
1501-2500	15	17.0	17.0	92.0
2501-3500	5	5.7	5.7	97.7
more than 3500	2	2.3	2.3	100.0
Total	88	100.0	100.0	

As indicated in Table 4.1.1.6, about 27.3% of sampled household respondents earn monthly income less than 500 ETB and 47.7% earn monthly income ranges between 501-1500. The other 17% and 5.7% who are engaged in guiding and other tourism related activities also earn a monthly household income of 1501-2500 ETB and 2501-3500 ETB, respectively. Only 2.3% of

respondents have earned household monthly income more than 3500 who are engaged in souvenir shop selling and trading activities particularly in Tis Abay town. Generally, one can understand from the above table that with the increasing number of household size, the monthly household income is not sufficient to cover monthly costs needed for households with the current condition of cost of living the country faces.

4.1.2 Interviewed Individual Characteristics

A total of 15 formal, semi-structured interviews were conducted during the field survey. Interviews were carried-out in a variety of locations, from community leaders and elders who have a deeper understanding about current and past situation of the area in different kebeles, kebele development agents and small-business runners related with tourism particularly at Debre Mariam Monastery area and Tiss Isat town. In addition, informants from regional Bureau of Culture, Tourism and Parks Development and scouts and mangers of BDNRMP were taken (see annex 3). Different informal communications and discussions were also undertaken throughout the study. Interviews varied in length from 20 minutes to 45 minutes depending on the amount of detail the informants were willing to provide in answering the questions.

At the first day of interview, the researcher intended to sound-record all interviews, but after conducting the first few in Tiss Abay town with one park scout and one souvenir shop owner, it was decided that sound-recording could impend the quality of the data being received. Informants appeared to be nervous, or ill at ease, upon seeing the tape recorder, and although they consented to being recorded, the researcher did not want to place the informants in an uncomfortable situation. It was decided that it would be better for the researcher to rely on memory than to risk the quality and accuracy of the information the informants were sharing, as sound-recording could have potentially led informants to provide false information in fear of revenge from managers or fellow community members. A small notebook was carried to each interview in which key points and/or quotations were recorded during the interview. Upon finishing each interview and after leaving the presence of the informant, the researcher recorded, in detail, the responses to the interview questions, and any other valuable data, in a notebook. Data gained from key informant interviews were analyzed concurrently together with quantitative data depending on the similarity of the issue.

4.2 Household Livelihood Resources

This section discussed the different activities that local people undertake to meet their day to day needs. This will help to determine how dependent people are on the natural environment for their livelihood and to have an overview of how local communities affect the parks resources to meet their livelihood.

Table 4.2.1: Major livelihood dependence activities of local communities (N=88)

Main occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Farming(mixed)	63	71.6	71.6	71.6
Daily laborer	5	5.7	5.7	77.3
Civil servant	3	3.4	3.4	80.7
Fishery	4	4.5	4.5	85.2
Wood working	6	6.8	6.8	92.0
Crafts work	4	4.5	4.5	96.6
Tourism related activities	3	3.4	3.4	100.0
Total	88	100.0	100.0	

As depicted from Table 4.2.1, the top livelihood activity in the study area was agriculture (71.6%). This activity is the main sources of food and cash. According to key informant interviews from kebele leaders and park wardens, almost all household in the study area depends on agriculture and the collection of agricultural cereals like teff, corn, and millet. Along the riverside, local communities harvest sugarcane, stimulant crop (chatt) and different types of edible fruits for their livelihood. Rearing of animals like cows, donkey, mule, goats, sheep and chicken are also other agricultural activities for local communities' livelihood in the study area. 4.5% and 6.8 % of respondents also performed fishing and wood working as their main source of livelihood, respectively. 5.7% are involved in daily laborer in agricultural activities as another means of livelihood for those who haven't their own farmlands. Only 3.4% of the sample population worked as civil servants. The remaining 4.5% and 3.4% sampled house hold representatives engaged in crafts work and tourism related activities as their main means of livelihood.

Informal communication with local kebele leaders and elders in the study area about the link between community members and the park revealed the following information. According to them all of the residents were either born or raised in the area which is now assigned as Park, or moved there at a very young age. They identify strongly with the area (park) and all like living in the area even though they live in poverty. One informant referred to living in the park as it is a poor, but nice life .When asked if they would be willing to move out of the park if the opportunity arose, nobody wants to leave. Several stated that they are natives, and that they have clean air to breathe, plenty of water and firewood; they have everything that they need close by. Community members feel that they are better off in their current place of residence than in other places, and one informant said that he felt he would die if he left the park. Generally, local people attached their life with the park and are very much dependent on natural resources of the park for their survival.

Table 4.2.2: Local communities view about their current livelihood dependence and its continuity for the future (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	33	37.5	37.5	37.5
No	55	62.5	62.5	100.0
Total	88	100.0	100.0	

Respondents were asked to confirm whether the current livelihood dependence will continue for the next few years with its full capacity of feeding their household or not. As one can understand from Table 4.2.2, the majority of sampled populations (62.5%) response was no. According to them, these was due to different reasons like traditional way of farming, loss of fertility of soil directly caused by soil erosion, fear of using their own resources in the park, population growth and the probability of each household size increment. About 37.5% of sampled respondent's response was yes. Generally the current household dependence becomes questionable, though other household livelihood options are needed for income diversification.

Table 4.2.3: Best livelihood dependence option in the park for the future (N=88)

Livelihood dependence options	Yes		No		Total	
	N	%	N	%	N	%
Local handicrafts	54	61.4	34	38.6	88	100
Tourism/ecotourism	30	34.1	58	65.9	88	100
Lodges and tents	34	38.6	54	61.4	88	100
Local transport	46	52.3	42	47.7	88	100
Hunting and fishing	4	4.5	84	95.5	88	100
Others	52	71.6	36	28.4	88	100

As revealed in Table 4.2.3, responses of sampled households indicated that the possibilities of some income generating alternatives or ecotourism potentials for creating diversified livelihoods other than agriculture (off-farm activities). In this case, 34.1% of the sampled households were expressed their interest if opportunity of diversified livelihood through tourism (ecotourism) activities. About 71.6% of households indicated other types of household livelihood options like harvesting sugar cane, planting edible fruits, bee keeping, and animal fattening. The results of this finding give clues to say that these possibilities can reduce the present degradations of attractive natural resources of the park. About 38.6% sampled house hold representatives were also expressed their interest of working in lodges and tents. About 52% of them also had the interest of providing local transport services for tourists if the area is developed as a tourist site. This revealed that the possibilities of creating diversified livelihood or potentials for ecotourism development in addition to linking it with existing activities of local communities or agricultural activities.

The interview results with key informants showed that honey production and selling of ripened wild fruits were also the other alternative income diversification options for the local people. The issue to be noticed that ecotourism activities cannot be separated from existing local activities or agriculture. The major reason why linking tourism and local agriculture is due to the majority of potential pro-poor tourism beneficiaries subsist from agriculture. As Torres and Momsen (2004) acknowledged that, the production of agriculture or farming for tourism showed an opportunity to build on the existing skills of the poor without requiring a major shift in economic livelihood

strategy, lifestyle and tradition. Therefore, agriculture is a significant potential for achieving pro-poor tourism by reducing impacts and maximizing benefits for the poor.

4.3 Local Communities' Awareness about the Park, Biodiversity and Ecotourism

Knowing how many of the respondents are aware of the existence of the park, and its biodiversity will give a better understanding of the people's views and perception of ecotourism and the protected area. To get these information respondents were asked if they know the park existed, biodiversity and its use as well as knowledge of ecotourism.

Table 4.3.1: Local communities awareness about the existence of the park (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	12	13.6	13.6	13.6
Agree	63	71.6	71.6	85.2
Undecided	8	9.1	9.1	94.3
Disagree	5	5.7	5.7	100.0
Total	88	100.0	100.0	

As observed from Table 4.3.1, about 75 (85.2%) of the sampled household respondents know the existence of the park in their areas and about 8 (9.1%) were undecided i.e. they didn't know whether the park existed or not in their areas, while 5 (5.7%) of sampled households never knew the existence of the park. So, one can understand that local community's level of awareness about the existence of the park is good even if there are some local communities who didn't aware about it. Key informant interviews from park staffs, kebele development agents and local kebele leaders also confirmed the existence of local communities' awareness creation programs in places where local communities found in mass during Sunday and other days on the odd occasion.

Table 4.3.2: Local communities awareness level about biodiversity and its use (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	11	12.5	12.5	12.5
Agree	27	30.7	30.7	43.2
Undecided	10	11.4	11.4	54.6
Disagree	34	38.6	38.6	93.2
Strongly disagree	6	6.8	6.8	100.0
Total	88	100.0	100.0	

As shown in Table 4.3.2, about 38 (43.2%) respondents had clear awareness about biodiversity resources of the park and its use while 10(11.4%) were undecided about the issue. On the other hand, 40(45.4%) of sampled household respondents didn't know biodiversity of the park and its use. This indicates the level of awareness about the concept of biodiversity and its use in their area is low.

Table 4.3.3: Local communities level of awareness about ecotourism (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	6	6.8	6.8	6.8
Agree	16	18.2	18.2	25
Undecided	14	15.9	15.9	40.9
Disagree	37	42	42	83
Strongly disagree	15	17	17	100.0
Total	88	100.0	100.0	

Table 4.3.3 indicated that local communities did not have a comprehensive notion of what ecotourism is all about. As revealed in the table, only 22 (25%) of the local respondents had awareness about ecotourism. These respondents think that ecotourism is about visits to the mountain by people who can afford to; while another thought it is all about enjoying nature. On the other hand, 52(59.1%) of local respondents had no awareness about ecotourism. The remaining 14(15.9%) local respondents were doubtful about the concept of ecotourism. So, they

had no clue as to what ecotourism is all about. This indicates that the majority of local communities had no awareness about the concept of ecotourism. But there is a perception particularly villages around Tis Abay that tourism will bring considerable economic development through employment opportunities and foreign exchange receipts. However, there is a marked lack of awareness about what market, infrastructural and service related factors would allow for successful tourism.

What is questionable, however, is the extent to which the informants truly understand what ecotourism is, and what its underlying principles are. Even though the researcher explained what is meant by ecotourism prior to beginning each interview, it appeared as though the informants did not differentiate between ecotourism and tourism in general and that the common belief is that tourism equals to money. Although the local communities did not fully understand the concept of ecotourism, the questionnaires revealed that they were all aware that at the end of the day, ecotourism is supposed to improve their lives, but not make them miserable. It is therefore necessary for BDNRMP stakeholders to do more in the area of sensitization and educate the local people to fully understand the concept of ecotourism.

4.4 Potential Ecotourism Resources of the Park

The assessment of ecotourism resources showed that natural, historical and cultural attractions or resources are the main ecotourism potentials in BDNRMP. These resources include the world famous River cited in Holy Bible as "*Ghion*" with its tributaries, historical Monasteries and churches with their holy waters, palaces, bridges, wetlands along the river side, water falls, birds, different flora and fauna, scenery of landscape, hot springs, attractive culture, and local handicrafts. According to Edelman (as cited in Eshetu, 2010), ecotourism resources are natural and cultural features that attract visitors like landscapes, flora and fauna, cultural festivals, local artifacts, historical monuments etc. Generally, there are natural, cultural and historical ecotourism potentials in and around BDNRMP, which can attract tourists and may contribute to conservation of natural, cultural and historical resources if they are well developed. Holden (2003) also acknowledged that the ecotourism resource in protected areas could generate more revenues, which could benefit the local people and contributed to conservation of protected areas.

Table 4.4.1: The park has potential resources that could be used for ecotourism development (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	8	9.1	9.1	9.1
Agree	16	18.2	18.2	27.3
Undecided	12	13.6	13.6	40.9
Disagree	33	37.5	37.5	78.4
Strongly disagree	19	21.6	21.6	100.0
Total	88	100.0	100.0	

As observed from Table 4.4.1, only 24(27.3%) of the local respondents had awareness about ecotourism potentials of the park. On the other hand, 52(59.1%) of local respondents had no awareness about ecotourism potentials of it. The remaining 12(13.6%) of the local respondents were doubtful about ecotourism potentials. This indicates that the majority of local communities have low awareness about potential ecotourism resources in the park. This directly related with low level of awareness about ecotourism and biodiversity in the area.

But the information collected from key informant interviews and field observation revealed that, the park's immense ecotourism resources beyond the actual tourist destinations. According to Regional Tourism and Parks Development Bureau Officials, BDNRMP workers, local leaders and park wardens, Tiss Isat fall, Deberemariam Island with its Monastery and Bezawit Hill top are actual tourist destination sites in the park that are already explored by tourist. According to them, the park has also other unexplored natural, historical and cultural tourism resources that could be developed as ecotourism hot spot. Key informants, overall, felt the area has something to offer tourists, and the river, particularly with its Tis Isat fall was mentioned numerous times as one of the main attractions of the area; swimming in the river and experiencing nature (bird watching, scenery of Abay River, etc.) were the two most frequently talked about activities.

Tour guides around Tis Isat fall were asked general information about the area and they expressed the attractiveness of the water course, fragmented river islands and its amazing water fall as well as historical bridge near the fall. Therefore, it is possible to say that BDNRMP is

where ecotourism business can well operate. Here under there are different potential ecotourism resources of the park.

4.4.1 Natural Ecotourism Resources

Natural attractions are physical features such as the landscape, lakes, forests, waterfalls, the climate and biotic features such as unique and endangered species, birds, reptiles and other animals. In this case, the biodiversity and nature in general can be tourism attractions. Taking the above explanations in to consideration BDNRMP has the following natural attractions.

4.4.1.1 Scenery (Landscape, Water falls, Hills with their view points, Hot springs)

A. The Abay (Blue Nile River) and Its Course

Blue Nile, the Grand River in Africa is one of the natural wonders of Ethiopia, which is characterized by meandering and fragmented water ways, spectacular faces of mountainous and valleys with upland and Riverine vegetation (Marye, 2009). The River is the cradle of civilization where ancient travellers like James Bruce and other expedition groups had navigated. It is home to numerous aquatic species. Adventure loving tourists could seasonally make white water rafting, which now days a popular sporting activity (BoCT, 2011). The park is the only riverside park not only in the region but also in the country and this could make the park special from other parks of the country. So, different portions of the gorge Abay within the park deserve to be developed as important ecotourism destination that could ensure sustainable economic benefits at local, regional and national levels.

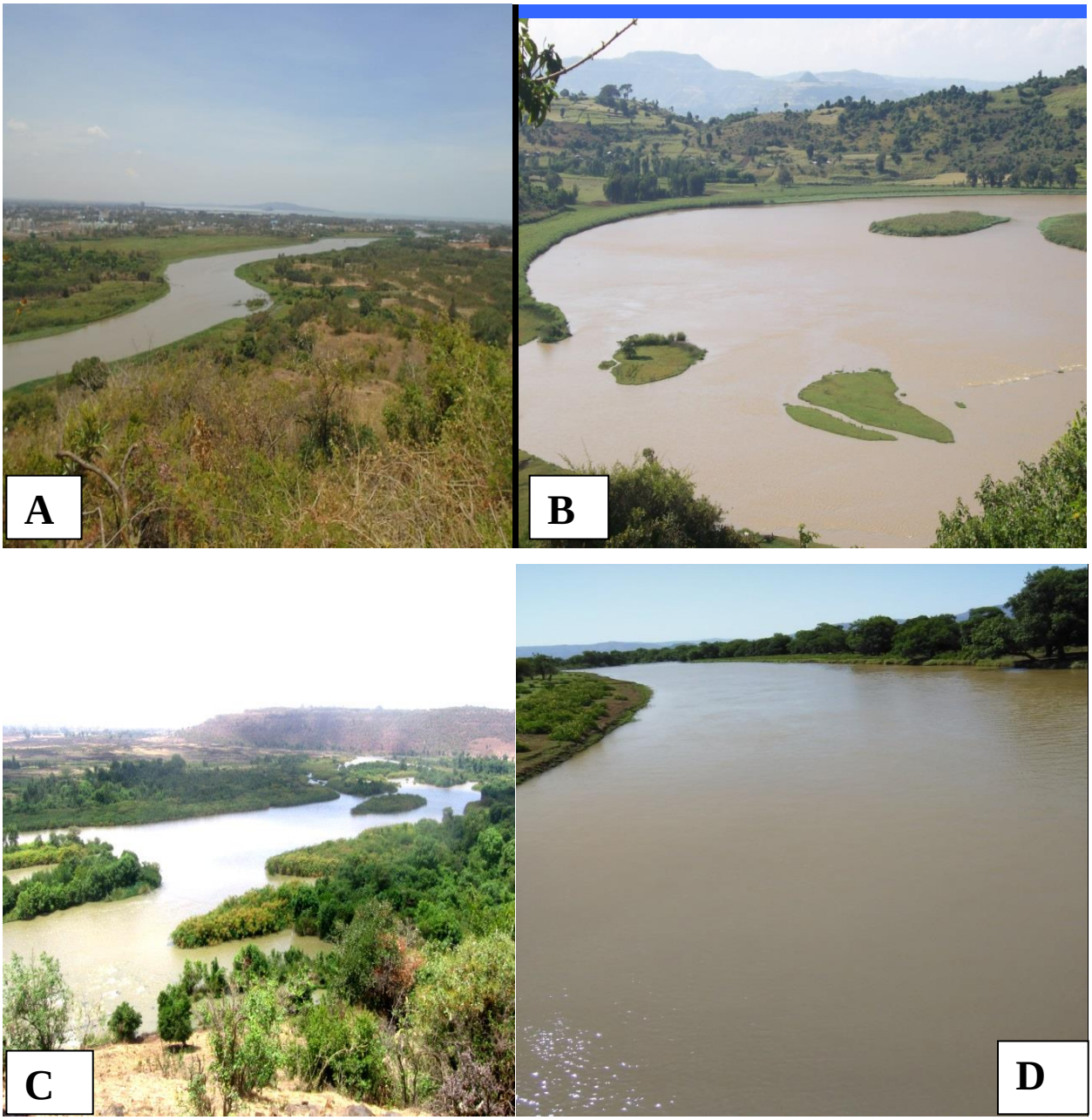


Figure 3: Different sceneries of Nile River inside BDNRMP (photo by the author, 2015)

A/ Beautiful scenery of Blue Nile river from Bezawit Hill

B/ Fragmented islands in Blue Nile River

C/ Beautiful scenery of the river with riverine vegetation around Tiss Abay

D/ The course of Blue Nile in Dasera kebele

B. Water Falls

Inside the demarcated area of the park, there are additional falls beside the well-known fall of Tis Isat. The Tis Isat Fall is situated near Tis Abay village about 35 kilometres southeast of Bahir Dar, has been drawing the attention of both domestic and international visitors especially for its breath taking smoky falls consisting of four streams that varies from a trickle in the dry season to stretched on 400 metres wide surface and plunging dramatically 45 metres deep creates wet overabundance that in turn produces brilliant rainbows across the gorges of the river. The curtains of the spray captivate any visitor and will not ever vanish from memory; especially a morning visit rewards tourists with astounding rainbows, as it is one of the best tourist attractions of Ethiopia (AMNRS, 2006). However, the field survey result showed that a world famous Tis Isat Fall, which is one of tourist attraction in the area have become lately unreachable to tourists especially in the summer season. It is said that the hydroelectric dam established on the Blue Nile River had negatively impacted the flow of the water feeding into the falls.

In addition to the Tis Isat Falls, the Blue Nile River has another water fall called "Ras Hailu Fall", situated east of the main road between the Tis Abay and the Andasa villages, at the foot of the Ras Hailu hill. The height of the fall is relatively short but wide while its water volume is relatively large compared to the Tis Isat Falls (Birhanu et al, 2007).

Figure 4: Volume and feature of Tis Isat Fall.

A. Tis Isat fall during dry season. Source. (Photo by the author, 2015)
B. Ras Hailu falls during rainy season. (Source: BDNRMP office, 2014)

C. Hot Springs and Holy Waters

Inside the park there are different hot springs and holy waters that have a potential for therapeutic purpose and to heal individuals from their illness. These hot springs and holy waters include:

- **Wonqshet Gaberiel Hot Springs and Holy Waters**

The holy waters and hot springs of Wenqshet Gabriel is found northeast of Tis Abay village. It is about one and a half hour journey on foot from the village. Topographically, Wenqshet Gabriel is half (crescent) encircled by the standing hills decorated by the natural forest. According to Aba G/Kidan, the welcoming person of guests coming from different corners of the area, representing the church, now functionally there are 12 hot springs and cold holy waters which serve as holy spray. Out of which 3 of them are hot springs while the other 9 are cold holy waters. The holy waters and hot spring of Wenqshet is believed to heal different diseases and hence many domestic visitors especially those of desperate patients flock to Wenqshet as a holy place to be healed from different diseases they encountered by the holy waters and hot springs in the form of drink and holy spray.

There are also other hot springs (Alata Giorgies and Dasera) in the park which can be used for relaxing purpose if developed and managed properly. Alata Geiorgis hot spring, which is found North West direction of Tis Isat Fall about one hour walk on foot is relatively in good condition and domestic tourists use this to heal from their illness. But the one found in Dasera kebele is not in good condition and it is on the way to distract because of agricultural expansion. In addition to this the place where the hot spring emanates is totally covered with phytoplankton and it is not visible.

Figure 5: Hot water springs in the park. (Photo by the author, 2015)

A. Alata Hot spring
B. Dasera Hot spring 1
C. Dasera Hot spring 2

D. The Wildlife (Fauna and Flora)

Based on the altitudinal variation, the major ecosystem in this area can be grouped into either dry evergreen montane forest or montane grassland or/and wetland ecosystems (Berhanu et al., 2007). Accordingly, the river flooded some parts of the land during highest level of the water making those areas wetland. And it diverts its courses in some places and come together forming dozens of small islands and in most of these islands, the vegetation cover is good and the abundance of animals is relatively better. Islands that are easily reached by man are empty of big trees as they are cut and replaced by annual crops, sugar cane plantations and other fruit plants. Different types of flora and fauna that could attract tourists to the area are discussed as follows.

❖ **Flora**

The vegetation cover of the study area is mainly composed of native species of grasses, herbs, shrubs and large sized trees, like for example, Eshe (*Mimusops kummel*), and Dokma (*Syzygium guineense*) are the common native tree species which are found in close proximity to the river. A little distance away from the riverbank trees like Wanza (*Cordia africana*), Bisana (*Croton macrostachyus*), Girar (*Acacia abyssinica*), Warka (*Ficus vasta*), and Arboj (*Sapium ellipticum*) are found. The commonly found plants, shrubs and climbers include Atat (*Maytenus arbutifolia*) in the wetlands and islands, papyrus, Fila, etc.

Study done by Marye (2009) showed that the riverside (riverine) natural forest is being replaced by grazing land and agricultural land that the forest cover has greatly reduced within short period of time. For instance, Abalo forest (*Terminalia brownii*) has now become completely devoid of forest. There were some well-known native tree species which were present in the area but now locally vanished mainly due to illegal cutting for construction, firewood, and expansion of farmlands. Other tree and shrubs species which were abundant in the past but now reduced greatly and confined to only few localities include: Eshe (*Mimusops kummel*), Dokma (*Syzygium guineense*), Agam (*Carissa edulis*), Enkoy (*Ximenia americana*), warka (*Ficus vasta*) (Berhanu

et al., 2007). However, people in most part of the park eat edible forest fruits as supplementary food locally named as Eshe (*Mimusops kummel)*, Enkoy (*Ximenia americana*), Dokuma (*Syzygium guineense*), and Wanza (*Cordia africana*) in the area where there are abundant on seasonal basis. At the same time these edible forest fruits are also sold in the market to generate income. Beyond the above, different forest patches are found in different places of the park. These forest patches have spectacular natural settings from wetlands, falls to hill tops which will gave divers attractions and viewpoints for visitors with different vegetation compositions. (For detail information about flora species of the park, see annex 5).

Figure 6: Floras in the park. (Photo by the author, 2015)

A. Dokma(*Syzygium guineense*)
B. Warka (*Ficus vasta*)

- **Fauna Including Birds**

The Study area has riverine forest which can accommodate various wild animals. However, due to the vast human activities on the habitats of the wild animals the variety and abundance of wildlife in the area is diminishing and it was difficult to observe especially the larger mammals. According to Birhanu et al. (2007), the main reason for the decline of wild animals in the area is the destruction of forest and changing the land to agricultural activities. As a result, many terrestrial and aquatic animals have not been observed recently. Accordingly, some of the animals that were used to live in the area and abundant were duiker (*Sylvicapra grimmia*), and

common bushbuck (*Tragelaphus Scriptus*). In addition the dominant animals that were observed by the researcher during field observation include hippopotamus (H*ippopotamus amphibins),* crocodile (*Crocodilus niloticus),* Anubis baboon (*Papio Anubis),* Hare (*Lepus abessinicus*) and Vervet monkey (*Cercopithecus aethops).* (See also annex 5).

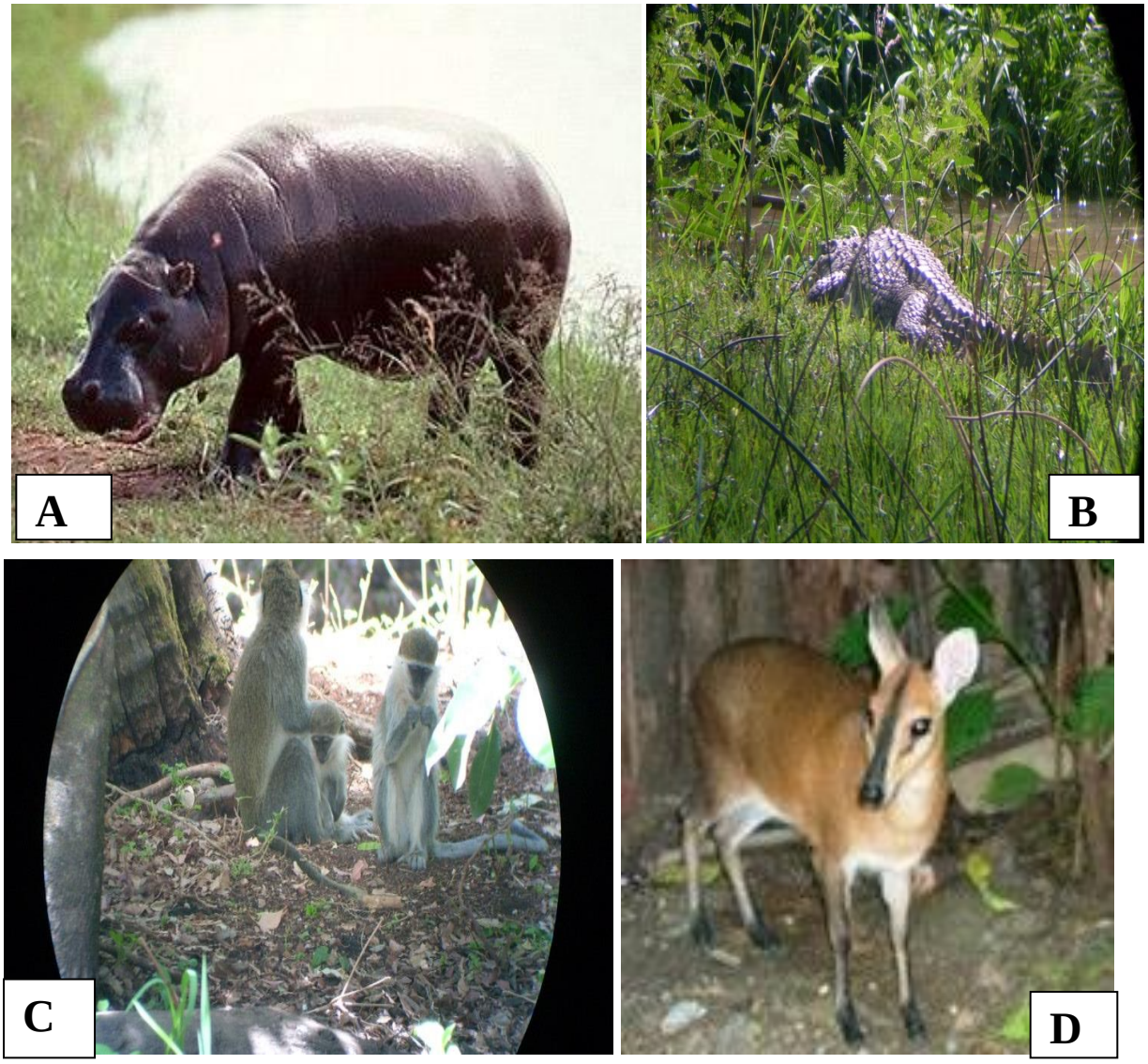


Figure 7: Some fauna species inside the park (Source: Office of BDNRMP, 2014).

A. Hippopotamus (H*ippopotamus amphibians)*
B. Crocodile (*Crocodilus niloticus)*
C. Vervet monkey (*Cercopithecus aethops)*
D. Duiker (*Sylvicapra grimmia*)

According to Birhanu et al. (2007), more than 160 bird species were observed in the park, including wetland birds, water fowls, riverine and woodland birds. Therefore, the park is home to several bird species and can be developed as bird site tourism particularly in Debre Mariam Island. (See also annex 6).

Figure 8: Some Bird species of the park. (Source: BDNRMP Office, 2014)

E. Mountain Hills

The topography of the park is characterised by gentile undulating plateau with meandering river course and relatively slow flow of water (Marye, 2009). According to him, the park consists of sloppy and hills in left side while the right side of the river has relatively flat feature. The hills are used for forest and cultivation while flat feature mostly used for traditional irrigation and grazing. These hills can serve as viewpoints for the river course together with island forest patches, different bird species, fauna species and natural setting of the area if developed as an ecotourism site. Some hilltops are listed as follows.

- **Bezawit Hill Top:**

The Bezawit hilltop situated 5 kms east of Bahir Dar and in the left side of the river. It has two special elegant viewpoints to see the Abay (the Blue Nile) river and Lake Tana. There are different viewpoints on the top of the hill but two are most important to see the river course, Bahir Dar city, Lake Tana and its islands. The first is situated on the western side where visitors can watch birds, take a look at the spectacular view of the Abay River, where it stars its course from Lake Tana and the stretched waterscape of the Lake.

Figure 9: Bezawit Hill (Photo by the author, 2015)

The second situated on the south eastern side is breathtaking in viewing the hippopotamus in the evenings and crocodiles during the day time on the river sides at the foot of the hill to the deep water of the Abay.

- **The Mulielit and Kuchara Hills**

The Mulielit and Kuchara hills are situated east of the Tis Isat falls or the Tis Abay village after 30-40 minutes' walk on foot. Found at the lower end of the park 1937 meter at the top of Mulelit. They have an elegant view point to see the Abay River (the Blue Nile) and its course from the north to the southern direction especially the rocky gorges up to extended kilometers in the south.

Figure 10: Mulilet and Kuchara hills around Tis Isat (Photo by the author, 2015).

- **Other Hills**

Other hills/Korebtas such as Kutetit, Bushet, Qunti and Ras Hailu in Dasera Kebele have divers' attractions and habitats ranging from wetlands to other hill tops. Most of the top hills are situated in the left sides of the park following the river course. All clearly show spectacular natural settings and features of the area, i.e. the natural beauty of the area which can serve as viewpoints for visitors.

Figure 11: Bushet Hill in Dasera Kebelle (Photo by the author, 2015).

4.4.2 Cultural and Historical Attractions

4.4.2.1 Cultural Attractions

As the region is one of the reservoirs of Ethiopia's historic past and its multicolored culture, the study area /BDNRMP/ is not different from these chanceful circumstances. The major cultural ecotourism resources include lifestyle of the local community, archeological, distinctive cultural patterns, local arts and handcrafts, cultural festivals, museums, interesting economic activities etc. (ANRS Tourism Commission, 2005). Taking the above explanations into account, the culturally attracting resources in the study area are discussed as follows.

There are different types of cultural practices that are practiced by the local communities in and around BDNRMP. The cultural activities and cultural products like the wedding ceremony, honeymoon ceremony after marriage, local music and dances, locally produced artifacts, funeral ceremonies, local house construction style, local conflict resolution mechanisms by elders, community's traditional life style, hair and wearing styles etc. can be good tourist attraction resources. The communities also have traditional songs, folklores poems, "*Kererto*" and "*Fukera*" as means strength during in the times of work though the sayings differ according to the type of the work. Local communities can, therefore, earn income by demonstrating cultural activities or by selling locally produced artifacts to tourists. Cultural products include artifacts made from animal horn, traditional garment and wool, jewelry, wearing styles, traditional tattoo,

pottery, traditional musical instrument ”*Washint*” in Amharic, embroidery, hat made from grass, weaving, basketry, traditional leather craft products, etc.

4.4.2.2 Historical Attractions

- **The Alata/Portuguese Bridge**

As one source of attraction the Alata /Portuguese Bridge is found within a short distance further downstream from the Tis Isat fall there is historic Stone Bridge constructed on a crescent shaped gorge Abay River. It had a historical value built at the command of Emperor Susenyos in 1626; by the crafts man who had come from India with Alfonso Mendez the catholic patriarch of Ethiopia supervised the construction (AMNRS, 2006). This stone footbridge is locally called the Alata Bridge.

Figure 12: Portuguese bridge. (Photo by the author, 2015)

Even though it is not historical; there is also another suspended bridge near Tis Isat fall which is important to cross the tributary River called Alata between local communities of Gojam and Gondar district. The bridge has a width of 1.06 meter and a span of 81 meters. It is a nice place for photographing and internal gorge viewing of Alata River.

Figure 13: Alata suspended bridge (photo by the author, 2015).

- **The Palace of Emperor Haile Selassie:**

On the hill top of Bezawit, there is a palace of Emperor Hailesillasie of Ethiopia built in the 1960s to stay at his periodic visit of the then provinces.

Figure 14: Emperor Haile Selassie palace on top of Bezawit Hill (Photo by the author, 2015).

- **Debere Mariam Monastery and its Treasures:** Debre Mariam Island is located in the southern region of Lake Tana about 5 km far from Bahir Dar town. Here the monastery of Debre Mariam is founded during the reign of Amed Tsion (1314-1344) by Abune Tadewos. It was rebuilt by king Tewdrose II (1855-1868). In 1688, king Iyasu chose the church as a site of council meeting which he called to tray to end the quarrels of the monks, the religious dignitaries, and the ark bishop Abba Sinoda. The religious controversy concerned the problems of the nature of Christ (MoCT, 2011). According to the priest, the church owns one of the oldest manuscripts, the Tetra Gospel which dates back to 1360-1380. This manuscript is beautifully illustrated as another of the same type which is dated from 1640-1660 which is also found here. The latter is an outstanding document of Ethiopian fine art. In addition, according to the priest the painting of Abune Tadewos, a work of the 14th c and an old drum made from clay (believed to have come from Israel) are also found in this monastery.

  Originally the church was hut made of mud and stone, but before 20 years the chanting room and the holy of the church was completely restored with cement, but the holy of the church kept its original style. The monastery is well known for its hippo colony and birds; therefore, the area invites bird watchers and hippo lovers. The place or the area around the church is also called Gumare Bahir (Hippopotamus Lake) because of the existence of many hippopotamus around the area. It is also called Abay Ras (head of the Nile) to mean that it is mouth of the lake out of which the Blue Nile comes out.

➢ **Wenqshet Geberiel Monastry:**

The story of Wenqshet goes back to the origin of Christianity in Ethiopia (official acceptance of Christianity by king Ezana in 4th century). According to Aba G/Kidan, Frumenttos a Syirian Christian who later had become the first Bishop of the country by the name called Aba Selamma or Kesatie Birhan (creator of the light), came to the area around 330 AD and conducted teaching Christianity to end Pentateuch (practice of old testament).

Since then it is said that there had been a monastery until its distraction by Ahmed Gragn (in 16th century) (MoCT, 2011).The religious leaders there say that it was one of the places where ancient Judaic worship and sacrifices had been taken place. The sacrificial materials, the ancient cross and the ancient indigenous made key are found. The foundation of the present church is laid down in 1994 E.C. and took its inaugural ceremony in 1998 E C. The church is built by curving the hillside and has a beautiful looking.

Figure 15: Wonqshet monastery (Source: ANRS BoCT, 2007).

4.5 Potential Ecotourism Activities in BDNRMP

Ecotourism depends on fine landscapes, abundant wildlife and richly diverse culture in order to be feasible and sustainable. Since BDNRMP is rich in different potential tourism attractions we can say that tourism activities can take place on those potential attractions.

Table 4.5.1: potential ecotourism activities and difficulties that may face to implement ecotourism and other developmental activities in the area (N=88)

Can ecotourism operate in the park?			Challenges that may face to implement ecotourism development in the park.	Yes		No		Total	
				N	%	N	%	N	%
Responses	N	%	Lack of facilities	57	64.8	31	35.2	88	100
Yes	36	40.9	Inadequate funding	62	70.5	26	29.5	88	100
No	52	59.1	Inadequate skills	72	81.8	16	18.2	88	100
Total	88	100	Lack of local participation	48	54.5	40	45.5	88	100

Table 4.5.1 showed the potential ecotourism activities and challenges that may face to implement ecotourism developmental in the area. Accordingly, 40.9% of respondents had an idea about the possibilities of ecotourism business in the area, but the majorities of the respondents had no idea about the possibilities to run the business of ecotourism. This could be directly associated with the awareness level of ecotourism and biodiversity. But key informant interviews from Regional Tourism and Parks Development Bureau, BDNRMP staff, souvenir shop owners and local tour guides hold the opinion that it would be a good idea to develop ecotourism in the park since the local communities could gain benefit from the parks resources in the form of direct and indirect tourism income.

Respondents were also asked about the major challenges that may face to implement ecotourism and other developmental activities in the area. Inadequate skills and financial (funding) constraints were the major problems with their respective percentages of 81.8 and 70.5. Lack of facilities was also another impediment to run ecotourism in the area. According to household respondents other constraints like lack of communication between local communities and park management bodies and other concerned stockholders was also another impediment. These identified problems could limit the park from achieving its full potentials as a nature-based tourism asset. The current and subsequent budgets of the regional government has not considered or included development of BDNRMP as part of its revenue drive. Indeed, inadequate funding of the BDNRMP makes it more valuable to disintegration. The present result also supported those

of James et al., (1999) where the annual expenditure on protected areas in many developing countries is extremely low and protected areas in tropical regions are under-funded even though they require resources for annual operating budgets, capital investment, staff training, community development and public awareness among a wide range of other activities.

Researcher's field observation and information from key informant interviews revealed that BDNRMP is rich in nature-based tourism activities whose potentials have not been explored to complement the state's tourism demands and pursuits, but the park totally lacks facilities and it is not developed to meet tourist standards and to attract foreign arrivals as expected. This could among other factors be attributed to the lessen attention government and cooperate individuals accord to this sector. This nature-based tourism asset of the area has not received enough financial support and priority compared to other tourist destination areas in the region. This has perhaps limited the opportunities the park can offer to adjoining communities and the state in particular.

Park wardens who were interviewed had the opinion that it would be a good idea to develop ecotourism in their respective responsive areas of the park since the local communities could gain benefit from the parks resources in the form of direct and indirect tourism income. They felt that the area has a lot to offer to tourists and that visitors would enjoy hiking, being in nature, washing in hot springs, curing from their illness by holy waters of Wonqshet and other areas, swimming, rafting, breathing clean air etc. One guard also mentioned that the park offers individuals with the opportunity to study and learn about the different types of medicinal plants, trees, birds, and animals that exist in the area. In general, the study area is full of magnificent sceneries and endowed with rich biodiversity. As a result, the potential products can contribute to the satisfaction of tourists, economic benefits of the local communities and the protection of the natural environment. Considering this, the following are the major potential eco-tourist activities that can be developed in the park.

- ✓ **Wildlife and bird watching**: the presence of known bird species, the hippo, and the Crocodile etc. has a high potential for wildlife and bird watching. Viewpoints of Bezawit (North of palace), Kutetit, Ras hailu, Bushit, Kachura and Mulilit are best for wildlife viewing and scenery.

- ✓ **Walkways/trekking**: The dominant attraction of the study area is the natural landscape, to have a special feel about the river nature of the fall and hence trekking and walkways through the river course is one of potentially significant products of the park. Trekking along water ways from source of Blue Nile to the Bridge. Forests, Natural glades and unique riverine vegetation (nature walks, camping).
- ✓ **Nature photographing**: the park with its natural features especially the waterfalls are the exceptional values of it which can attract nature photographers and film producers. For example, landscapes, wetlands, river ways, and forest patches are attractive tourist spots.
- ✓ **Boat riding, river rafting and recreation**: Papyrus and iron made motorized boat floating on the river course of Abay.
- ✓ Cascading waterfalls (sightseeing), variety of fish species (sport fishing)
- ✓ **Cultural attractions** such as pottery, basketry, dance performance and traditional cleansing, (cultural tourism).

Table 4.5.2: Important assistance needed for local communities to implement ecotourism (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Adequate skills/training	29	33.0	33.0	33.0
Tourism infrastructure	22	25.0	25.0	58.0
Loans/ credits	15	17.0	17.0	75.0
Investors partnership	22	25.0	25.0	100.0
Total	88	100.0	100.0	

Table 4.5.2 showed the important assistance that is needed to run ecotourism in the park. According to sampled household responses adequate skills training, tourism infrastructure, loans/credits and investor's partnership is needed to operate ecotourism business in the area.

Key informant interview from Regional Culture and Tourism Office revealed that the non-existence of tourism infrastructure like roads, trekking routes, tourist accommodation etc. in and around the park can maximize tourist's length of stay and their level of satisfaction. They also recognized that lack of awareness training programs for local communities about ecotourism in

particular and tourism in general. So, the concerned institutions together with the Regional Culture and Tourism Bureau have to do something in order to run ecotourism business in the area so as to make local communities directly benefit from the existing resources in the park.

4.6 Threats to Biodiversity Conservation in BDNRMP

Many natural areas were subjected to long time disturbance and fragmentation of varying extent (Christ et al, 2003) due to aggressive impacts of anthropogenic factors derived from different systems of utilization. Among several pressure and threats to vegetation are cutting for different purpose through removal of above ground or plant parts and clearing of under growth (understory), overgrazing and expansion of farmlands and settlement. In this part, the major socioeconomic threats of the local communities that have impact on the resource of BDNRMP and that would probably affect the development of ecotourism in the park were discussed as follows.

Table 4.6.1: Responses on the need of natural resources by Local communities from the park (N=88)

Are there natural resources that you need from the park?			Types of resource needed	Yes		No		Total	
				N	%	N	%	N	%
Responses	N	%	Farming land	79	89.8	9	10.2	88	100
Yes	88	100	Grazing land	72	81.8	16	18.2	88	100
No	-	-	Wood for fuel and construction	54	61.4	34	38.6	88	100
Total	88	100	Water for drinking and Irrigation	80	90.9	9.1	28.4	88	100
			Wild animals for their skin and meat	9	10.2	79	89.8	88	100

As one can observe from Table 4.6.1, 100% of the respondents needed natural resources from the park in one way or another. The most important resources that are highly needed by the local communities include water for drinking and irrigation (90.9%), farming land (89.9%), grazing land (81.8%), wood for fuel and construction (61.4%), followed by wild animals for meat and

skin (10.2%). During field observation, the researcher observed that, cultivation and grazing was expanded up to the edge of the river, all steep slopes and gentle slopes were changed into cultivation and grazing fields. Not only had this but local communities also cut forests for the purpose of house construction and fuel wood. There are no adequate foraging lands to keep livestock population outside the park. Therefore the livelihood of the local community is highly dependent on exploitation of natural resources. Thus social problems enforce local people to over exploit the remnant biodiversity resource in the park.

Table 4.6.2: Main place of work for local communities (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Agricultural lands within protected area	35	39.8	39.8	39.8
Potential Tourism areas	25	28.4	28.4	68.2
Within island forest patch	15	17.0	17.0	85.2
outside the park	13	14.8	14.8	100.0
Total	88	100.0	100.0	

Table 4.6.1 depicted that about 35(39.5%) of the respondents had agricultural lands and perform their agricultural activities inside the park and about 25(28.4%) were around potential tourism resources of the park i.e. around hot springs, hill sides, water falls, and forest areas. About 17% of the respondents were performing their livelihood activities within island forest patches inside the park which is potentially rich ecotourism attraction. Only 14.8% of sample households had their main working place outside the demarcated areas of the park.

According to Birhanu et al. (2007), the community has owned the park not only crop and settlement portion but also extensive area of grazing 1238 ha of land with an average about 0.7 ha landholding. Besides agricultural areas of the park the community both living and cultivating inside and outside the park use forest and riverine wetlands of the park and exert extremely diminishing, pressure through deforestation and overgrazing on the natural habitats and biodiversity resources. The survey result indicated that the majority of households were

dependent inside BDNRMP as their main household income and these activities in one or another way are threats to biodiversity inside the park.

Table 4.6.3: Local communities view about destruction of natural resources and its causes (N=88)

Have you seen destruction of natural resources in your area?			Causes of destruction	Yes		No		Total	
				N	%	N	%	N	%
Responses	N	%	Extensive farming	58	65.9	30	34.1	88	100
Yes	68	77.3	Over grazing	51	58	37	42	88	100
No	20	22.7	deforestation	46	52.3	42	47.7	88	100
Total	88	100	Wild fire	-		88	100	88	100
			Illegal hunting , and extraction of fishing	23	26.1	65	73.9	88	100
			Waste disposal from factories	20	22.7	68	77.3	88	100

The responses of sampled households about degradation of natural resources in BDNRMP presented in Table 4.4.3 revealed that, 68% of the respondents noticed the destruction of natural resources while 20% didn't notice this destruction. According to these respondents, the major causes of destruction of natural resources of BDNRMP indicated that 65.9% and 58% respondents claimed that expansion of farming and over grazing as the major causes of distraction respectively. About 52.3% and 22.7% of the respondents responded that deforestation and waste disposal from factories and illegal hunting as causes of natural resource degradation in the area. And about 26.1% noted that extraction of fishing as the cause. Generally, the major threats to the biodiversity of BDNRMP as identified from local communities responses are: extensive farming, deforestation and overgrazing, waste disposal from factories, illegal hunting, and extraction of fishing. These problems result in soil erosion, vegetation degradation, wildlife depletion, fish reduction and associated factors (Marye, 2010).

The result of the interviews from the protection staff (park scouts) and kebele development agents revealed that livestock grazing and agricultural expansion as the major problems affecting

biodiversity conservation in the park; followed by deforestation and illegal fishing. In addition, inadequate funding was declared as management problems affecting biodiversity conservation in the park and was followed by poor salary for protection staff and employment condition. Low level of communication between park management bodies and surrounding villages is also another management problem facing to conservation of biodiversity. Above all those problems are aggravated by lack of clear cut boundaries of the park. The park has neither clear natural boundary nor fences that can minimize the risk of its natural resource degradation.

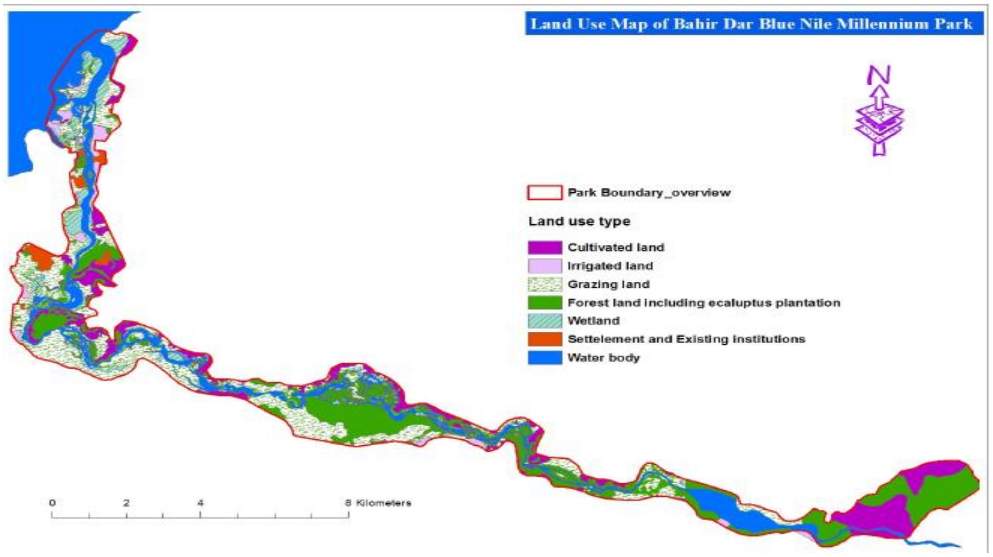
Table 4.6.4: Major consequences of natural resource destruction in the park (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Soil erosion	38	43.2	43.2	43.2
Vegetation extinction	21	23.9	23.9	67.0
Wildlife depletion	17	19.3	19.3	86.4
Water contamination	12	13.6	13.6	100.0
Total	88	100.0	100.0	

Table 4.6.4 portrayed major consequences of natural resources destruction in the park and the top consequences. According to sampled household responses top consequences were soil erosion, vegetation extinction, wildlife depletion and contamination with their respective percent of responses 43.2%, 23.9%, 19.3% and 13.6%.

The information gained from different key informant interviews also supported the above causes. According to them, pollution from municipalities, factories and car wash were the major cause of water contamination. This may result not only in aquatic species depletion but it may also contaminate rural communities of the area because during the field survey the researcher witnessed that rural communities in the study area used the river water for drinking and food preparation. Generally, based on data from sampled households, key informant interviews, field observation and secondary data analysis, the major threats to biodiversity in the park are presented as follows.

- **Shape of the Park**: The shape of the park is zigzag liner having an exaggerated length with a very narrow width along the river. It is believed that parks and protected areas with such kind of shape are probably exposed to an edge effect problem and face difficulty of controlling or patrolling (Eshetu, 2010 as cited in Lakew et.al).



Map 2: Land-use map of the Bahir Dar Abay River Millennium Park (source: Marye, 2010).

- **Management Challenges:** The main management challenges according to the park manager were lack of adequate funding and logistics. According to him, the park has no entrance fees and even money collected from the well-known Tis Isat waterfall which is part of the park has no any contribution for the protection of park's resources rather it directly goes to the regional treasury. The only source of finance is annual budget from Bahir Dar City Administration and this is not sufficient for protection of the park. Meduna et al., (2009) noted insufficient funding, poor salaries for protection staff and lack of equipment as prominent management problems affecting biodiversity conservation in national parks.

Key informant interviews with park manager and park wardens also revealed employment conditions and monthly salary of park employees particularly park warden's distress the parks resources negatively. Accordingly, all park scouts are temporarily employed and this may affect the commitment of employees not to use their full capacity in protection of the resources in the

park. One park scout said regarding the employment condition and the statement below is the reference speech of him and directly translated to English.

> *"We are always asking park authorities about our employment condition to be permanent employees, but there is no response still. Because of this we the park wardens become unenthusiastic and no one is interested to discharge his duties in the park. If we are not permanently employed why we care about the park? We have no any guarantee and tomorrow we may resign from our work even. Not only this but also our monthly salary is not attractive. These and other factors urged us not to protect the park properly."*

- **Livestock grazing**: Grazing natural pasture and feed is not a question right now in the park. Adjacent villages of BDNRMP natural areas it is prevalent since long ago. Based on the assessment about 90% of the park's resources are accessed by domestic stock for grazing (Strategic plan for BDNRMP 2010-2014, 2010). Local communities who live inside and outside of the park used to feed their livestock inside the park. Because of this the vegetation cover becomes over degraded. It is common to see livestock grazing everywhere in the park even in some island patches of the river. This shows how they are a challenge to the management of the park.

Figure 16: Extensive grazing of livestock near the river bank (Photo by the author, 2015).

- **Deforestation**

During the field observation the researcher witnessed deforestation, drying big tress by fire around roots, and destroying tree branches. The main reason for these basically is not to shelter large herbivore mammals like, wild pig, monkey, and baboons, for protection of their crop.

Islands that are easily reached by man are devoid of big trees as they are cut and replaced by annual crops, sugar cane plantations and other fruit plants.

Figure 17: Deforestation inside the park (photo by the author, 2015).

- **Illegal Hunting:** Despite the fact that hunting is illegal, quite a number of households admitted that they did take place and the effect of the people is manifested on hunting wild animals inside the park. During the field survey park scouts and local people were asked why people were hunting and on which type of animals they were involved and who was involved in hunting. Accordingly, the reason for hunting was to destroy large herbivore mammals like hippo (*Hippotamus amphibus*), bush pig (*Potamochoerus porcus*), porcupine (*Hystrix cristata*), and baboons (*Papio Anubis*), either for protection of their crop and chasing carnivores since these animals prey their livestock. People also hunt wild animals like bushbuck (*Tragelaphus Scriptus*) and duiker (*Sylvicapra grimmia*) for their skin and meat. Some bird species like guinea fowl (*Numida meleagris*) and francolin are also hunted for bush meat.

- **Agricultural expansion up to the edge of the river**:

The field survey result showed that agriculture as a major means of livelihood dependence strategy in the study area and most of local communities undertake their activities inside the protected area even up to the edge of the river bank.

Figure 18: Agricultural expansion up to the edge of the river bank (Photo by the author, 2015).

- **Fishing and Papyrus plant collection:** some local communities use fishing as supplementary source of income in the area. Papyrus plant has been used for the source of papyrus plant for traditional coffee, holyday and religious ceremony as a recreational decoration spreading on the house floor called" Chefe" in Amharic language. Steams of papyrus also used to make straw basket that serve for different purpose. "Agelegel" the round straw basket made from papyrus with conical shaped cup covered with furred original leather mainly used for household decoration hanging on the wall.

Table 4.6.5: Local communities view on how to overcome causes of natural resource destruction (N=88)

Is there possible way to minimize treats of this destruction?			The means to overcome causes of destruction	Yes		No		Total	
				N	%	N	%	N	%
Responses	N	%	Introducing tourism	46	52.3	42	47.7	88	100
Yes	68	77.3	Planting edible fruits	51	58	37	42	88	100
No	20	22.7	Involving local people in conservation	58	65.9	42	34.1	88	100
Total	88	100	Demarcate park boundaries properly	51	58	37	42	88	100

As shown in Table 4.6.5, most of respondents (77.3%) suggested the ways how to minimize threats to biodiversity destruction in the park while 22.7% of sampled households didn't. Accordingly, involving local people in conservation, planting edible fruits, demarcate park boundary properly and introducing tourism/ecotourism are the main possible ways to reduce threats inside the park. In addition to these, key informants also forwarded possible way to minimize natural resource degradation in the park such as implementing ecotourism development as biodiversity conservation option.

Generally, lack of livelihood options and source of income have intensified the dependence of local communities on the resource values of BDNRMP. This notion is further strengthened by key informant interviews. The idea extracted from key informants reveals that without appropriately addressing the economic needs of the local communities, the mere vow of natural resource conservation seems to be unattainable. Key informants strongly argued that if resource conservation project is to bear fruit, there must be a mechanism to cope up with the livelihood problems of the local communities unless emerged to a contradiction than a contradistinction. This is because the livelihoods of the local communities are strongly linked with the resource potentials of the park. Therefore, livelihood diversification options other than agriculture will be sound mechanism to keep the park's resources from its threats.

4.7 Possible Livelihood Diversification Options in the Park

Most of the households in the study area have different sources of income. All the households are involved in agriculture and the collection of agricultural products as the main sources of food and cash but are also involved in other activities such as hunting, fishing, petty trading and the provision of hired labor. Since the area is becoming vulnerable to different factors in relation to agricultural activities and extensive livestock grazing, it is important to find other livelihood activities for local communities so as to conserve and use resources sustainably. So, other off farm activities is needed in the study area.

Table 4.7.1: My family's income and quality of life would increase if tourists could attract to explore the park (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	6	6.8	6.8	6.8
Agree	21	23.9	23.9	30.7
Undecided	23	26.1	26.1	56.8
Disagree	30	34.1	34.1	90.9
Strongly disagree	8	9.1	9.1	100.0
Total	88	100.0	100.0	

Table 4.7.1 showed the level of awareness that ecotourism activities could have the effect on the household's income and quality of life. About 30.7% of the respondents had awareness about the probability of increasing their household income and quality of life positively if the opportunity of ecotourism development is initiated in the park while 43.2% of sampled households didn't have awareness about it. 26.1% were unclear about the issue. But interview results showed that ecotourism's economic benefit to diversify livelihoods income by different means like creating job opportunities in the form of mule rentals, tour guides, cook, and souvenir shops. According to the information obtained from kebele leaders, nobody dealt with local communities about potentials of ecotourism development and its benefits in the park rather than informing them not to clear the forest and killing wild animals in the area. One informant from Tis Abay kebele

stated his views regarding ecotourism development particularly about community based ecotourism development as follows:

> *"If the concerned body informs about the values of both cultural and natural resources for the communities own sake, nobody won't hesitate to protect and everybody could see it as his resource. If "Fernji" equivalent term for "tourist" according to the informant is coming to our area, we will gain money and this money may have a great contribution for us to educate our children."*

The driving factor of this response is ecotourism development's potential for providing economic benefits to him. The majority of those in favor mentioned that it could provide benefits and that they could start a small business and/or sell food to tourists; but no one mentioned any potential benefit of ecotourism other than money.

There is a perception particularly villages around Tis Abay that tourism will bring considerable economic development through foreign exchange receipts. However, there is a marked lack of awareness about what market, infrastructural and service related factors would allow for successful tourism. Wildlife attracts tourism, as does the natural beauty of the forest (Birhanu et al, 2007). One respondent who was not in favor of ecotourism development, thought the area should be protected and that only tour guides and transport vendors could benefit from the development. From informal discussions with the guides in Tis Abay town, and staff of BDNRMP, the researcher gathered that sometimes, local people can also get jobs like the clearing of tracks, supplying agricultural products for tourist establishments in the park, being as scout for tourist's etc. if the opportunity of developing ecotourism becomes practical in the Park.

4.8 Ecotourism Development as Biodiversity Conservation Tool in BDNRMP

One of ecotourism's greatest contributions to conservation is the degree, to which it can shift community activities from the threats category to that of opportunities; that is those activities which contribute to sustainable development and the achievement of an area's conservation goals (Eshetu, 2010).

Table 4.8.1: The current rules used in conserving the resources in the area are adequate (N=88).

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	19	21.6	21.6	21.6
Agree	33	37.5	37.5	59.1
Undecided	12	13.6	13.6	72.7
Disagree	18	20.5	20.5	93.2
Strongly disagree	6	6.8	6.8	100.0
Total	88	100.0	100.0	

Table 4.8.1 showed that the local communities' views about current rules that are applied in order to conserve resources in the park. First, it is better to have a glimpse about current rules applied in conservation. According to park manager the only and practicable method for conservation of the park's resources put at place at present is through temporarily employed park scouts. About 59.1% of sampled households noted that the current rules used in conserving the park's resources as an adequate and 27.3% said that the current rules that are applicable for conservation of resources are inadequate. However, the rest 13.6% of respondents didn't decide whether the current rules are adequate or not.

Even if the majority of local communities agree with the current conservation mechanism as an adequate, the information gained from key informant interviews particularly from park management personnel and kebele leaders and elders contradicted with the views of local community's. Researcher's field observation supported the ideas of key informants and during field observation; the researcher noticed that illegal activities like deforestation on the park's resources. This was due to dispiritedness of park scouts related with their employment condition and local communities notice this as an advantage unintentionally without imagined its future consequences.

Generally, local people would like to have access to forests and wildlife resources especially grazing and agricultural land, stone and mud for construction, fuel wood and bush meat.

Nevertheless, with the creation of protected area approach to conservation and employing guards or scouts, local people felt that everything had been taken away from them. They therefore have no choice rather than to practice illegal activities when they are in need. Such an attitude is not tolerated and tensions the relationship between the park and local people. Local people threaten the park by various uncontrolled means like poaching, fuel and construction wood, mud and stone collection. Although these unauthorized exploitations were practiced by relatively few individuals, there is the possibility that the number would rise if other alternative issue is not addressed. Therefore the current rule to biodiversity conservation of the park is not adequate.

Table 4.8.2: Local communities alone can protect parks resources (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	13	14.8	14.8	14.8
Agree	20	22.7	22.7	37.5
Undecided	14	15.9	15.9	53.4
Disagree	30	34.1	34.1	87.5
Strongly disagree	11	12.5	12.5	100.0
Total	88	100.0	100.0	

Table 4.8.2 indicated about 37.5% of sampled households agreed that the conservation of parks resources by themselves but 46.6% didn't agree with these. The other i.e. 15.9% of sampled household's undecided about the protection of the park by local communities.

This magnifies the common motto of priority attention in protected area selection such as marginalizing the community to involve in demarcation and management of the park is creation of additional and severe threats to the resources of the park. It requires providing adequate awareness, research, and extension services to the local community to meet conservation demand and solution to the prevailing challenges in the area.

Table 4.8.3: Ecotourism development in the park could have contribution for biodiversity conservation (N=88)

Responses	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	7	8	8	8
Agree	21	23.9	23.9	31.9
Undecided	10	11.4	11.4	43.2
Disagree	44	50	50	93.2
Strongly disagree	6	6.8	6.8	100.0
Total	88	100.0	100.0	

Table 4.8.3 showed that the local communities views regarding ecotourism developments potential for biodiversity conservation. Thus, about 30(31.9 %) of sampled households viewed that ecotourism development could have a contribution for biodiversity conservation, but the majority of the sampled households i.e. 50 (56.5%) didn't had clues about ecotourism development for biodiversity conservation in the area. This is directly related with the level of awareness that sample households had about ecotourism and biodiversity. The rest 10 (11.4%) were doubtful about the issue. Protection of biodiversity is key instrument for any conservation project. As natural areas are protected, the goal is to maintain a balance in the ecosystem. In the case of BDNRMP, key informant respondents in the surrounding communities, The Regional Culture, Tourism and Parks Development Bureau officials and park management personnel held a general view that conservation and ecotourism could have the potential to protect the area and it could also bring a significant increase in the number of plants and animals in the area. This in part is because through sensitization, many locals especially the hunters will drop their weapons and indiscriminate hunting has been greatly mitigated. Some of the hunters could offer alternative sources of livelihood by being employed as scouts and cooks so that they could substitute their hunting activities for conservation oriented jobs. Some of these former hunters could have also been given management roles in order to give them a sense of control and ownership. The following quote reinforces the idea of key informants and it says:

"...tourism can also contribute to the conservation of biodiversity and ecosystems. Tourism generates income that can be used for the protection of nature and serve as an alternative source of income for local communities. Tourism can replace traditional economic activities that damage and destroy nature and can therefore be a more sustainable form of land use. Tourism also creates environmental awareness among local communities as well as tourists"(IUCN, 2008).

Therefore, developing ecotourism in the study area can generate income that can be used for the protection of biodiversity in the park as well as it could serve as an alternative livelihood diversification option for local communities.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

The assessment of ecotourism potentials revealed some of the natural, cultural and historical tourism resources of BDNRMP. These potential ecotourism resources include the world famous River cited in Holy Bible as "*Ghion*" with its tributaries, historical monasteries and churches with their holy waters, palaces, bridges, wetlands along the river side, waterfalls, bird species, different flora and fauna, scenery of landscape, hot springs, attractive culture, and local handicrafts. Along with, wildlife viewing and photographing, bird watching, walkways/trekking along the river side, nature photographing, boat driving and recreation, forests, natural glades and unique riverine vegetation (nature walks, camping), cascading waterfalls (sightseeing), River Blue Nile (river rafting and boat riding/racing), cultural attractions like dance performance and traditional way of life (cultural tourism) etc. can be the main potential ecotourism activities to be practiced on these resources.

The absence of alternative options (off farm activities for local communities) including ecotourism are the major problems of BDNRMP and its surroundings whereas ecotourism potentials are available. Extensive farming, overgrazing and deforestation, are the major factors contributing to land degradation by exposing the soil to various agents of erosion which in turn greatly affects agricultural productivity which directly affects the agrarian livelihood. The biodiversity of the park is totally exposed for extensive farming, overgrazing, and deforestation, waste disposal from factories, illegal hunting, and extraction of fishing by local communities. These all are directly results of local community's low level of awareness about biodiversity and its uses in the area.

Ecotourism can be used as a way to promote biodiversity conservation and livelihood diversification in the park. It can help economic development and conserve protected areas by creating local jobs, providing a sense of community ownership, and bringing revenue that can be used to manage protected areas in a sustainable way. By promoting ecotourism in the park, it is

possible to benefit the locals, diversify their source of livelihoods and conserve resources in a sustainable manner.

5.2 Recommendations

1. **Community Awareness Creation**: Awareness creation for local communities and creation of strong coordination among stakeholders concerning the benefits of the park and the need for conserving the parks resources is one of the critical issues that should be performed. Community awareness creation is also needed about the concept of ecotourism and its advantages for revenue generation and livelihood diversification. Such awareness might be created through formal and informal meetings of local communities with support of BDNRMP and other concerned stakeholders. Therefore it is necessary for BDNRMP stakeholders to do more in the area of sensitization and educate the local people to fully understand the concept of ecotourism, the park and biodiversity.

2. **Promotion of potential ecotourism resources and creating network with actual tourist sites**: Promoting the existing tourism resources and services of the park by identifying the right target promotional mechanisms like by using electronics, websites, brochures and any other available means is found to be a priority issue. In addition, creating networking with actual tourism sites of the area is also crucial issue to lengthen tourists stay in the area.

3. **Developing ecotourism in the area**: Concerned bodies, considering ecotourism's multifaceted contribution, should make every effort to develop ecotourism scheme so as to overcome degradation of resources in the park and to improve the livelihood of people living around the park.

4. **Linking economic benefit that could be obtained from ecotourism to conservation efforts**: Linking economic benefits with conservation efforts helps alleviate the problems associated with biodiversity loss, wildlife disturbances or loss of access to resources formerly employed by the community tend to remain localized. Ensuring that ecotourism providers purchase their inputs from local suppliers and employ local people can ease this situation.

5. The livelihoods of the local communities should be effectively addressed to achieve conservation efforts. This is because the mere vow of protecting the natural resource values of the park cannot claim to be achievable with the prevalence of abject poverty and lack of livelihood options. So introducing ecotourism as an alternative option for livelihoods in the area could help in conservation of biodiversity.

6. The regional government together with other stakeholders should adjust the management problems that aggravate resource degradation. The employment condition of park wardens should be permanent and their salary also should be agreeable.

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